Appendix N

IDNR audit of MS4 permit

Contents:

a) 2013 05 14, e-mail from Kate Bason (DNR) notifying of intent to review the GrimesMS4 permit, includes 13 page inspection report (14 pages).

b) 2013 07 17, telephone record & e-mails with Kate Bason (DNR) requesting additional information as follow-up to the meeting conducted on 2013 06 27 (3 pages).

c) 2013 07 18, e-mail to Kate Bason (DNR) from FOX Engineering with requested additional information about FedEx site plan approval (25 pages).

d) 2013 07 24, e-mail from Kate Bason (DNR) with letter and follow-up report from the meeting conducted on 2013 06 27 (7 pages).

e) 2013 07 30, e-mail from Kate Bason (DNR) with letter and revised follow-up report from the meeting conducted on 2013 06 27 [corrected the NPDES #] (7 pages).

f) 2013 09 20, e-mail to Kate Bason (DNR) with response letter about non-compliance items noted in the inspection report (13 pages).

FW: Draft MS4 inspection checklist

From: Bason, Kate [DNR] [mailto:Kate.Bason@dnr.iowa.gov]
Sent: Tuesday, May 14, 2013 4:03 PM
To: Joe McAreavy
Subject: Draft MS4 inspection checklist

Hello Joe,

Here is the draft inspection checklist that we discussed today. The questions are largely the same as in the 2009 inspection and were originally derived from the EPA web site. I anticipate 3-4 hours for checklist and documents review (if supporting documents are readily available) and 2-3 hours for field visits. Please let me know some times that will work for city staff. Currently, I could make June 21st - 23rd, 28th, 29th work. I am sending this as a Word doc so city staff are free to add notes on it for the meeting, if that's helpful.

Thank-you,
Kate

KATE BASON Environmental Specialist

Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
Field Office #5, 401 S.W. 7th St., Suite I, Des Moines, IA
50309-4611

WWW.IOWADNR.GOV

Leading Iowans in Caring for Our Natural Resources.

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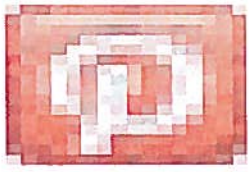

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Grimes MS4 inspection report draft 1.doc
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IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL SERVICES DIVISION
Field Office #5
401 S.W. 7th St., Suite I, Des Moines, Iowa 50309-4611
Phone: (515) 725-0268 FAX: (515) 725-0218

REPORT OF INSPECTION

INVESTIGATION DATE	CURRENT:	LAST:
TO:	City of , IA	
SUBJECT:	Storm Water MS-4 Compliance Inspection Iowa NPDES Permit No:	
PERSONS CONTACTED:	Name, Title,	Phone:

Introduction

The departmental compliance inspection of the City's MS4 program was made on _____. The scope of the inspection included an evaluation of the permit requirements, general discussions pertaining to the city's storm water program and on-site visits to _____.

Iowa NPDES Permit

The City of _____ was issued an Iowa NPDES Permit for the discharge of storm water for its Municipal Separate Storm Sewer System (MS4), totaling approximately _____ square miles, on _____. The permit expiration date is _____.

Some sections of this report are informational only, others reference the NPDES permit. Questions were taken from online EPA storm water guidance documents

n/a = not applicable, n/o = not observed.

Part II A. Public Education and Outreach on Storm Water Impacts

Compliance Information	Yes	No	n/a	n/o
Has an outreach strategy been developed?				
Have measurable goals been included for public education?				
Describe the public education storm water messages that have been developed.				
The education messages developed were based on what perceived need? Pollutants of concern? Target audience? Behavior of concern? What other?				
Is public education concerning potential illicit discharges being addressed?				
Is pesticide, herbicide, fertilizer education being conducted?				
What target audiences have been identified?				
Identification of target audiences has been based on what?				
What studies/information/identified problems were used to establish target audiences?				
Describe methods and location of materials distribution.				
What materials has the permittee identified as the most effective in their public education efforts?				

Permit requirements	Yes	No	n/a	n/o
General storm water education brochure				
Telephone hotline number				
Articles in the city newsletter				
Web site				
Storm drain labeling				

Comments:
As a reminder, the educational materials that are provided to residents must include the City telephone hotline number.

Part II B. Public Involvement and Participation

Compliance Information	Yes	No	n/a	n/o
Has public participation been obtained during storm water management program changes?				
Identify storm water related volunteer activities sponsored, supported or endorsed by the MS4.				
Describe the evidence/documentation of public participation in storm water planning.				
Has a public awareness survey been performed? Results? How measured?				

Permit requirements	Yes	No	n/a	n/o
Public meetings				
Storm water advisory committee				
Volunteer programs				

Comments:

Part II C. Illicit Discharge Detection and Elimination

Compliance Information	Yes	No	n/a	n/o
Does the MS4 have an ordinance which prohibits illicit discharges?				
Are exclusions (non-storm water discharges) allowed?				
Types of enforcement mechanisms available: NOV administrative fines stop-work orders civil penalties criminal penalties other				
Is there an official enforcement escalation plan or procedure in place?				
Is there a map of the MS4 system that is complete? Hard copy or electronic?				
Who can access the map and for what purpose?				
Is dry-weather field screening used to detect illicit discharges?				
What is the frequency and extent of field screening (i.e. 30% of major outfalls annually)?				
Are the areas for screening prioritized? Criteria used: land use in watershed, waterbody impairment, spills/dumping incidents, other				
Is a checklist or reporting form utilized?				
Are dry-weather flows sampled and analyzed? Parameters:				
Are dry-weather screening findings tracked? Database used? Data tracked:				
Has an investigation procedure been adopted (SOPs)?				
Have illicit discharges been identified? Summarize situation and how it was investigated and addressed:				
Has a spill response plan or procedure been adopted?				
Who responds on behalf of the MS4 on spills?				
Do spill response staff have adequate equipment and training?				
Does the MS4 track spills and responses? How?				

Permit requirements	Yes	No	n/a	n/o
Illicit discharge prohibition ordinance				
Illicit discharge detection and elimination program				
Storm sewer system map				

Comments:

Part II D. Construction Site Runoff Control

Compliance Information	Yes	No	n/a	n/o
Has the MS4 adopted an ordinance to require appropriate BMPs at construction sites?				
What is the threshold of coverage in the ordinance?				
Are there exclusions from coverage allowed? For what?				
Does the ordinance include regulation of other pollutants at construction sites (e.g. construction waste, trash, chemical, etc.)?				
Is a permitting mechanism used to require appropriate BMPs (i.e. grading permit, building permit)?				
Is a plan required (erosion or SWPPP)?				
Are minimum construction site BMPs specified? What types?				
What types of enforcement mechanisms are available? NOV administrative fines stop-work orders civil penalties criminal penalties other				
Does the MS4 have an official enforcement escalation plan or procedure in place? Describe:				
Are construction projects tracked? Projects <1 acre?				
What information is tracked? Project status inspection findings enforcement actions complaints NOI submittal other				
Are construction site projects prioritized to determine inspection frequency?				
Are any of the following criteria used to prioritize inspections: proximity to waterbody waterbody impairment size of project slope of project?				
What is the number of active projects?				
Who performs erosion and sediment control plan review?				
What is the size threshold for plan review (i.e. 1 acre)?				
Is the NOI submittal verified during review?				
Are pre-project meetings conducted with the developer?				
Do standard conditions of approval include erosion and sediment control and/or general storm water requirements?				
Are plan review criteria or checklists used?				
Who performs construction site storm water inspections?				
Is the training received by inspection staff adequate? Frequency of training?				
How many inspectors are there for storm water issues at construction sites? On average, what is the number of construction sites each inspector is responsible for?				
Are construction site inspections triggered by rain events? What size rain event? How soon after rain event?				
Is a standard inspection checklist used for inspections?				
Does the checklist cover all necessary components for inspection?				
Are the inspection findings tracked in a database?				
Can construction inspectors administer enforcement actions? If no, who can? If yes, what types of enforcement actions?				
What type of enforcement action if most commonly used?				
How are enforcement actions tracked?				
What is the average number of enforcement actions (by type) issued in the previous year? Calls NOV: administrative fines: stop-work orders: civil penalties: criminal penalties: other:				

What is the most common compliance issue on construction projects (i.e. tracking, Litter, inadequate concrete washout BMPs)?				
Is there adequate legal authority and tools available to inspectors to enforce storm water requirements on construction projects? If no, how could the program be improved?				
Who does follow-up on enforcement actions?				
What type of training is provided to developers and construction site operators? Is attendance required? Frequency of training? Number of operators trained? Training topics?				
Are presentations given by MS4 staff to professional groups?				

Permit requirements	**Yes**	**No**	**n/a**	**n/o**
Construction site runoff control ordinance				
Construction site review and inspection program				
BMP demonstration sites				
BMP manual				

Comments:
Onsite construction site visits are summarized in the Appendix.

Part II E. Post Construction Storm Water Management

Compliance information	**yes**	**no**	**n/a**	**n/o**
Does the MS4 have an ordinance to require post-construction storm water BMPs on new development or redevelopment projects?				
What is the threshold for coverage in the ordinance (e.g. 1 acre, 100 cubic yards)?				
Is there provision for exclusions from coverage allowed by the ordinance?				
Is a permitting mechanism (i.e. building permit) used to require appropriate BMPs?				
Are minimum post-construction site BMPs specified? What type?				
Is there an overall comprehensive or watershed plan with detailed information on current and planned development and redevelopment?				
Does the municipal comprehensive plan include storm water elements? If so, what types? Imperviousness public infrastructure/drainage open space water body protection				
Are there programs and design guidelines to assist in current and future development and redevelopment (including funding programs)?				
Has the MS4 conducted an audit or review of the existing code?				
Is technical guidance provided or available for developers?				
Does the guidance include selection criteria?				
Does the guidance include O&M requirements?				
Who performs the post-construction BMP plan review (i.e. planning department,				

building department)?				
Do MS4 review staff receive training for post-construction review? Frequency of training:				
Is there a size threshold for post-construction plan review (i.e. 1 acre, 10,000 square feet)?				
Are pre-project meetings conducted with the developer?				
Are there standard conditions of approval included in the post-construction storm water requirements?				
Is there a plan review checklist or criteria used?				
Are maintenance agreements required?				
Are post-construction structural BMPs tracked? Information tracked: location maintenance requirements inspection findings				
Are nonstructural BMPs tracked?				
Is a database used for tracking BMPs?				
What is the number of private post-construction structural BMPs?				
Who performs post-construction BMP inspections?				
What training do inspectors receive? Frequency?				
Are "as-built" inspections performed?				
How often are BMPs inspected? What determines frequency?				
Is a standard inspection checklist used?				
Are findings tracked in a database?				
Can inspectors administer enforcement actions if private post-construction BMPs are not maintained? If not, who can? If yes, what types of enforcement actions?				
What is the most commonly used enforcement action?				
Are enforcement actions tracked? How?				
What is the average number of enforcement actions (by type) issued in the previous year? NOV administrative fine stop-work order civil penalties criminal penalties other				
Are adequate legal authority and tools available to the inspector to enforce post-construction storm water requirements? If no, how could the program be improved?				
Who does follow up on enforcement actions?				
What type of training is provided to designers and engineers? Is attendance required? Training frequency? Number trained: Training topics:				
Are presentations given by MS4 staff to professional groups?				
Is a checklist used during the design/review of post-construction BMPs?				
If contracted planners and engineers are used for the design of MS4 owned projects, does the contract language specify that post-construction storm water BMPs be incorporated into the design?				
Do in-house inspection staff inspect post-construction BMPs? If so, which department?				
Are post-construction inspectors trained? Frequency?				
If contracted inspectors are utilized, are minimum inspection, maintenance, and reporting requirements specified in the contract?				
Permit requirements	**Yes**	**No**	**n/a**	**n/o**
Post-construction site runoff control ordinance				
Site plan review of post-construction runoff control devices				
Inspection of run-off control devices				
Watershed assessment program				

Comments:
Post construction storm water management site visits are summarized in the Appendix.

Part II F. Pollution Prevention/House Keeping
This section of the NPDES Permit addresses preventing and reducing pollutant runoff from municipal operations.

Compliance Information – MS4 Construction Project Inspections	yes	no	n/a	n/o
Who performs construction storm water inspections at MS4 projects (i.e. building inspector, dedicated storm water inspector)? List all if different phases or areas of the project are inspected by different staff.				
Is the training received by inspection staff adequate? Frequency of training?				
How many inspectors are there for storm water issues at MS4 construction projects? On average, what is the number of MS4 projects each inspector is responsible for?				
How often are MS4 sites inspected, on average? What determines the frequency of inspection?				
Are MS4 project inspections triggered by rain events? What size of rain event? How soon after the rain event?				
Is a standard inspection checklist used for MS4 inspections?				
Does the checklist cover all necessary components for inspection?				
Are the inspection findings tracked in a database?				
Can construction inspectors administer enforcement actions? If not, who can? If yes, what types of enforcement actions?				
What type of enforcement action is most commonly used?				
How are enforcement actions tracked?				
What is the average number of enforcement actions (by type) issued at MS4 projects in the previous year? NOV administrative fines stop-work orders civil penalties criminal penalties other				
What is the most common compliance issue on MS4 construction projects (i.e. tracking, litter, inadequate concrete washout BMPs)?				
Is there adequate legal authority and tools available to inspectors to enforce storm water requirements at MS4 construction projects? If no, how could the program be improved?				
Who does the follow up on enforcement actions?				

What type of training is provided to MS4 construction site operators? Is attendance required? Frequency of training? Number of operators trained? Training topics?				
If contracted planners and engineers are used for the design of MS4 owned projects, does the contract language specify that storm water BMPs be incorporated into the design?				
Do in-house inspection staff inspect MS4 owned projects? If so, which department?				
If contracted inspectors are utilized, are minimum inspection, maintenance, and reporting requirements specified in the contract?				

Compliance Information – MS4 Maintenance Program	**yes**	**no**	**n/a**	**n/o**
Have outfalls and receiving waters been mapped? %?				
Have catch basins been mapped?				
Have pipes, ditches, and other conduits been mapped? %?				
Have public storm water facilities (BMPs) been mapped?				
Have private storm water facilities (BMPs) (e.g. post construction BMPs such as rain gardens) been mapped?				
How does the permittee utilize the maps (e.g. tracking illicit discharges)?				
Have schedules been established for inspections and cleaning?				
Is cleaning and maintenance of catch basins tracked?				
How are spoils materials disposed of? Is this on a proactive basis or only in response to blockage events?				
At what frequency are public facilities inspected? Construction: Non-construction:				
At what frequency are private facilities BMPs inspected? Construction: Non-construction:				
Are checklists used for inspections?				
Have maintenance standards and procedures (SOPs) been established?				
Is there a regular street sweeping program? Frequency of street sweeping:				
Is the frequency of street sweeping based on water quality factors (e.g. proximity to streams)?				
How are spoils disposed of?				
Are BMPs used during road maintenance activities? Describe:				
Is BMP guidance available to municipal field staff?				
Are deicers used by the MS4?				
Is the type and amount of deicer tracked?				
Is sand/salt swept up after application? How soon?				
Has an inventory of flood management structures been completed?				
Have structures been assessed for storm water retrofit?				
Do new structures include water quality considerations?				
Does the MS4 have facilities that require a SWPPP?				
Describe enforcement procedures used to address noncompliance on a MS4-owned facility.				
Are parking lots owned/operated by the permittee swept?				
Are certified applicators used for all pesticide application?				
Are integrated pest management (IPM) practices used?				
Is a BMP technical guidance document available to maintenance staff?				
Does the MS4 use any contractual staff to complete any of the MS4 maintenance activities?				

Does the MS4 require storm water impacts to be considered and utilization of appropriate BMPs implemented with contractors?				
What materials are used to educate the public regarding storm water impacts on MS4 property (i.e. public spaces) relating to: Pet waste: Litter reduction:				

Permit requirements	**Yes**	**No**	**n/a**	**n/o**
Operation and maintenance of MS4				
Pesticide and fertilizer management program				
Training program for municipal employees				
City facilities BMPs				

Comments:
MS4 construction site, operations, and maintenance site visits are summarized in the Appendix.

Part III. Reporting Requirements
An annual report is to be submitted to the DNR by _____.

Compliance information – Annual Report Review	**Yes**	**No**	**n/a**	**n/o**
Is there a storm water management plan or similar planning document?				
Are specific measureable goals referenced?				
Are revisions to the permit noted?				
Is water quality data analyzed for trends?				
Does the annual report assess program effectiveness?				
Which department is overseeing public education and participation?				
Has an outreach strategy been developed?				
Have specific target audiences been identified?				
Have behavior changes been tracked?				
Has the effectiveness of education activities been evaluated? Is a survey used?				
Have changes to the outreach strategy been noted?				
Attendance at public involvement activities?				
Attendance for volunteer programs?				
Is the volume/weight of trash and debris removed from the MS4 documented?				
Does the report document areas targeted for higher frequency of maintenance?				
Household hazardous waste collection: Number of events? Amounts collected? Number of participants?				
Amount of pollutants entering the MS4 and/or receiving waters:				
Data analysis performed?				

Comments:

OTHER:

Industrial/Commercial Component The MS4 permit that was effective during this inspection contains no industrial component so this portion was provided for technical assistance and guidance.

Information	Yes	No	n/a	n/o
Does the MS4 have an ordinance which requires industrial/commercial facilities to install BMPs or minimize pollutant discharges?				
What types of facilities are covered by the ordinance?				
Has the MS4 inventoried industrial/commercial facilities?				
What types of facilities are included in the inventory?				
Are facilities prioritized according to risk? What criteria is used? Proximity to waterbody? Waterbody impairment? Type of facility? Materials produced on site? Materials stored on site?				
Has the MS4 mapped applicable industrial/commercial facilities? GIS?				
Have standards been adopted which require industrial/commercial facilities to install BMPs (e.g. all car dealerships must install a wash rack plumbed to the sanitary sewer?				
Are standards for new development only or do they apply to improvements as well?				
Are there additional criteria which determine whether BMPs are required (e.g. facilities determined to be "high priority; facilities within 100 feet of a stream)?				
Is a specific guidance document or manual utilized?				
Have materials been developed to educate operators about required or recommended BMPs?				
Has training been provided to operators? Frequency?				
Does the MS4 conduct industrial/commercial facilities inspections? Frequency?				
What staff (department or agency) is responsible for inspections?				
If multiple departments perform inspections (i.e. health department inspection of restaurants, pretreatment staff inspection of heavy industries), are storm water findings complied?				
Is a checklist used during inspection?				
What types of data are collected during inspection? Proximity to waterbody? Type of facility? Materials produced on-site? Materials stored on-site? Hazardous waste on-site? NOI submittal? Other?				
Are non-filers (requiring storm water permits) reported to the DNR?				
What method is used for tracking inspection findings?				
Are educational materials provided to operators during inspections?				
Have enforcement escalation plans or procedures been adopted?				
Can industrial/commercial inspectors administer enforcement actions? If no, who can? If yes, what type of enforcement actions?				
What enforcement action is most commonly used?				
How are enforcement actions tracked?				
What is the average number of enforcement actions (by type) issued in the previous year? Notices of Violation (NOV): Administrative fines: Civil penalties: Criminal penalties: Damage abatement: Other:				
Does the MS4 have adequate legal authority and tools available to inspectors to enforce storm water requirements at industrial/commercial facilities? If no, how could the program be improved?				
Who does the follow up on enforcement actions?				

Comments:

REQUIREMENTS:

RECOMMENDATIONS:

AUTHENTICATION	
INSPECTOR: , Environmental Specialist	**DATE:**
REVIEWER: , Environmental Specialist Senior	**DATE:**

APPENDIX

Construction site field review	Project #1		Project #2		Project #3	
Location						
Are BMPs adequately incorporated into the plan to address erosion and sediment control?						
Are design specifications and details for all BMPs included on the plans?						
Do standard conditions include erosion and sediment control or storm water provisions?						
Are maintenance requirements specified?						

Comments:

MS4 Construction site field review	Project #1		Project #2		Project #3	
Location						
Are BMPs adequately incorporated into the plan to address erosion and sediment control?						
Are design specifications and details for all BMPs included on the plans?						
Do standard conditions include erosion and sediment control or storm water provisions?						
Are maintenance requirements specified?						

Comments:

Post construction storm water management field review	Project #1	Project #2	Project #3
Location			
What type of storm water element is implemented – imperviousness, public infrastructure/drainage, open space, water body protection			
Last inspected?			
Last maintained?			

Comments:

Maintenance/Housekeeping field review	Project #1	Project #2	Project #3
Location (city shops/materials storage, parks/recreation chemical storage, catch basins, etc.)			
What type of BMP installed?			
Last inspected?			

Comments:

Zimbra **sbw@foxeng.com**

City of Grimes , Iowa MS-4 plan review

From : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov> Wed, Jul 17, 2013 02:29 PM
Subject : City of Grimes , Iowa MS-4 plan review 4 attachments
To : Brandt Williamson <sbw@foxeng.com>

Hi Brandt,

Sorry – we seem to have lost our connection. Please send me a copy of the checklist you've been using for the site plan review of construction sites in Grimes. If it's in need of the addition of post-con elements, you can note that and add those elements to the checklist. The inspection is based on what has been used during the past year so I need an existing document.

Thanks,
Kate

KATE BASON Environmental Specialist
Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
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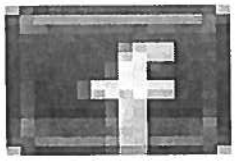

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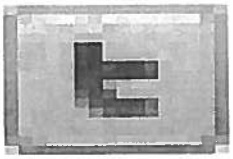

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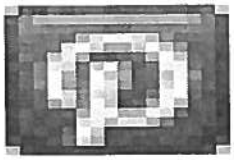

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Zimbra **sbw@foxeng.com**

RE: Grimes MS4 audit

From : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov> Wed, Jul 17, 2013 02:30 PM

Subject : RE: Grimes MS4 audit

To : Brandt Williamson <sbw@foxeng.com>

Thanks Brandt – our emails must've crossed in the wires.

From: Brandt Williamson [mailto:sbw@foxeng.com]
Sent: Wednesday, July 17, 2013 2:27 PM
To: Bason, Kate [DNR]
Subject: Grimes MS4 audit

Kate,
Phone went dead as we were talking...I will e-mail you the information soon.
Also left you a voice mail as I don't like to leave phone calls hanging thinking I cut somebody off.

Had a bit of surprise these past couple days with the DNR website going down...
it was nice of Anne Hildebrand to return my call to say when the site was back up and functional.
No doubt this caused you some problems as well.

Brandt Williamson

FOX Engineering Associates, Inc.
414 South 17th Street | Suite 107 | Ames, IA 50010
Office | 515.233.0000 | Fax | 515.233.0103
www.foxeng.com

FOX engineering

TELEPHONE CONVERSATION RECORD | No.

Date: **2013 07 17** | Time: **14:15** | [x] CALL IN [ ] CALL OUT

PROJECT: **Grimes MS4 DNR Permit**

P.N. **7024-03S.301**

FOX ENG. CALLER: Brandt

REFER TO PREVIOUS RECORD NO:

SPOKE WITH: **Kate Bason**

FIRM: **Iowa DNR**

ADDRESS:

PHONE: (515) 725-0333

Subject: **Follow-up to permit audit of 6.27.2013**

Saved under K/!proj/7000/7024-03S/301/2013 Annual report/2013 07 17 tele record DNR Kate Bason

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Approximately 2 minutes...Kate called requesting information as part of the follow-up to our meeting on 6.27.2013. She would like to know more about the FedEx site and what the discussion was determining the storm water control for the site...send checklist used by city to review the site plan...also wants the "post-con agreement" information.....phone unexpectedly went dead...returned the call and left a voice mail that I will e-mail the information to her

FOX DISPOSITION:

ROUTE TO: file

WORK LISTED TO BE SCHEDULED BY:

FOLLOW UP REQUIRED BY:

[ ] SEND PHOTOCOPY TO OTHER PARTY

[ ] SEND _____ TO OTHER PARTY

[ ] OTHER PARTY TO SEND LETTER OF CONFIRMATION

Zimbra **sbw@foxeng.com**

Re: City of Grimes, Iowa MS-4 plan review

From : Brandt Williamson <sbw@foxeng.com> Thu, Jul 18, 2013 02:20 PM
Subject : Re: City of Grimes, Iowa MS-4 plan review 7 attachments
To : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov>
Cc : John Gade <jmg@foxeng.com>, Joe McAreavy <jmcareavy@ci.grimes.ia.us>

Hi Kate,
Answers to questions
1. City is responsible for maintenance to the channel completed in 2012.

2. The regional detention basin that is upstream of the improved channel is on the south side of Hwy 44.
Landmark would be the Kum & Go gas station at the intersection of Lower Beaver and Hwy 44 which is across the street from the detention pond.
It is a private pond that is inspected/maintained by the association.

3. Attached is a packet that contains a) site development plan, b) stormwater management plan (SWMP) review checklist for design professionals and c) template for a storm water management facility maintenance covenant and permanent easement agreement (otherwise known as the "post-con" agreement).
The Site Development Plan contains a section for required Erosion Control Information which has a requirement for a storm water management plan.
The SWMP checklist speaks for itself.
The template for the post-con agreement is used as its own checklist. The person reviewing post-con agreements says developers are provided a copy of the template and what the developer returns is compared against the template.

Also attached are site plan and SWMP review letters. Discussion of the PCC flume doesn't show up in the review letters and appears to have been addressed without official documentation. The rational for the PCC flume is the extremely flat grade and distance the water has to travel from the west side of the site to the outfall on the east side. The SWMP shows this site has to provide passage for a large drainage area to the west. The outfall for this site also combines as the outfall for the lot to the south.

The grading plan for this site is provided for your use.

Feel free to ask for additional information about the FED Ex site if this doesn't cover all the details.

Brandt

From: "Kate Bason [DNR]" <Kate.Bason@dnr.iowa.gov>
To: "Brandt Williamson" <sbw@foxeng.com>
Sent: Thursday, July 18, 2013 10:01:16 AM
Subject: RE: City of Grimes , Iowa MS-4 plan review

Hello Brandt,

Just a few other questions relating to Grimes:

1. Who is responsible for the maintenance of the drainage channel maintenance project that was completed in 2012? I assume the city?
2. I believe a regional detention basin was mentioned – has that been built? Where? Who is (or will be)

responsible for its inspections (if determined)?

3. Could you send the checklist for the FedEx project? I am curious how the post-con BMPs were evaluated since I understand they put in a concrete flume. Was there some justification for the flume? If so, how was it justified?

Feel free to call to discuss, if you wish.

Thanks,
Kate

KATE BASON Environmental Specialist

Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
Field Office #5, 401 S.W. 7th St., Suite I, Des Moines, IA 50309-4611

WWW.IOWADNR.GOV
Leading Iowans in Caring for Our Natural Resources.

From: Bason, Kate [DNR]
Sent: Wednesday, July 17, 2013 2:29 PM
To: 'Brandt Williamson'
Subject: City of Grimes , Iowa MS-4 plan review

Hi Brandt,

Sorry – we seem to have lost our connection. Please send me a copy of the checklist you've been using for the site plan review of construction sites in Grimes. If it's in need of the addition of post-con elements, you can note that and add those elements to the checklist. The inspection is based on what has been used during the past year so I need an existing document.

Thanks,
Kate

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image001.jpg
1 KB

Zimbra **sbw@foxeng.com**

RE: City of Grimes , Iowa MS-4 plan review

From : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov> Thu, Jul 18, 2013 10:01 AM
Subject : RE: City of Grimes , Iowa MS-4 plan review 4 attachments
To : Brandt Williamson <sbw@foxeng.com>

Hello Brandt,

Just a few other questions relating to Grimes:

1. Who is responsible for the maintenance of the drainage channel maintenance project that was completed in 2012? I assume the city?
2. I believe a regional detention basin was mentioned – has that been built? Where? Who is (or will be) responsible for its inspections (if determined)?
3. Could you send the checklist for the FedEx project? I am curious how the post-con BMPs were evaluated since I understand they put in a concrete flume. Was there some justification for the flume? If so, how was it justified?

Feel free to call to discuss, if you wish.

Thanks,
Kate

KATE BASON Environmental Specialist
Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
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From: Bason, Kate [DNR]
Sent: Wednesday, July 17, 2013 2:29 PM
To: 'Brandt Williamson'
Subject: City of Grimes , Iowa MS-4 plan review

Hi Brandt,

Sorry – we seem to have lost our connection. Please send me a copy of the checklist you've been using for the site plan review of construction sites in Grimes. If it's in need of the addition of post-con elements, you can note that and add those elements to the checklist. The inspection is based on what has been used during the past year so I need an existing document.

Thanks,
Kate

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restricted discharge point too flat to drain.

FOX engineering

Aspen Business Park | 414 South 17th Street, Suite 107 | Ames, Iowa 50010

March 16, 2012

Jerry Oliver, P.E.
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12
Des Moines, Iowa 50322

FedEx Ground – Stormwater Management Plan
Grimes Industrial Park Plat 3, Lot 1

The City of Grimes and FOX Engineering have completed the 1st review for the FedEx Ground Stormwater Management Plan, dated March 5, 2012 and offer the following comments:

Site Plan

1. On Sheets 2 & 3, please include trash guards on SW-513 outlet structure orifices.
2. On Sheets 2 & 3, please include scour protection at 18-inch RCP outlet pipe from pond.
3. On Sheets 2 & 3, please consider aggregate subbase at concrete flume for long term stability.
4. On Sheet 3, please provide erosion/scour protection at emergency overflow weir.
5. On Sheet 3, please provide adequate pipe cover for 18-inch RCP at pond outlet structure. The outlet structure may need to be embedded into pond embankment.
6. On Sheet 3, please show proposed grading at SW Brookside Drive (future). Current grading plan shows existing ground elevations are approximately 2-ft lower than top of pond at the east side of site, north of entrance drive.
7. On Sheet 3, riprap channels at the south side of parking lot are steep and will generate high runoff velocities to the concrete flume. Scour protection along the south side of concrete flume is recommended.
8. On Sheet 4, please identify curb cut locations for riprap channels at south parking lot.
9. On Sheet 5, please specify seed mix details.

Stormwater Management Plan/Calculations

10. Pre-development Tc calculations (page 7) for the site show shallow concentrated flow distance of 520-LF. The Pre-Developed Tc Map (page 27) shows length of 1130-LF. Please verify.
11. Pre-Developed Tc calculation of 122 min for Offsite West (page 9) appears to be too long for the 29 acre basin. TR-55 estimation by FOX shows Tc closer to 66 min. Please see attached TR-55 summary and verify.
12. Please provide culvert capacity calculation for 30" RCP at entrance drive.
13. The method used for calculating pond storage volume typically underestimates actual volume required and is only useful for preliminary planning. Please include a pond volume adjustment factor as recommended in Iowa Stormwater Management Manual Section 2C-9.F, or complete all final design pond routing calculations using the SCS

unit hydrograph method and IDF curves for the design 24-hour rainfall event. Please submit revised calculations.

14. The detention pond and outlet structure shall be designed to detain on-site stormwater runoff up to the 100-yr storm event and release at a rate no greater the pre-development 5-yr runoff rate. The pond outlet structure may also include capacity for off-site 5-year pre-development flows. However, design shall be independent from off-site flows greater than the 5-year event by-pass through the site. Excess off-site by-pass flows may be intercepted by the pond outlet structure, at elevation above the design 100-year water surface, or released through an overflow weir with adequate capacity. It appears pond peak discharge during the 100-yr event (8.85 cfs) exceeds the allowable release rate. Please submit revised calculations.
15. Please review *Grimes Industrial Park Master Storm Water Plan*, dated January 16, 2005, *Wright Tree Service Stormwater Calculations*, dated July 23, 2008 (attached), *Stormwater Management Plan Cramer Headquaters and Drainage Map*, dated January 18, 2005 (attached). According to these documents, a large shared pond is required to provide stormwater detention for Lot 6 (Cramer) and Outlot Z (FedEx) combined. Total estimated storage is 222,286-ft3. Please revise pond to include runoff and storage from Lot 6 (Cramer). Pond outlet structure modifications appear to be necessary for the combined system. Please review reports and revise detention pond plans to ensure both lots (Cramer & FedEx) provide required detention and release flows at allowable rates.
16. The previous reports show that existing 2-27-inch RCP culverts have capacity for either 66 cfs or 50.5 cfs. Please provide updated culvert calculations for the proposed project.
17. The off-site (west) drainage area appears to exclude land that contributes runoff to the northwest corner of FedEx site. Please review previous reports and revise off-site drainage area accordingly.
18. There is concern for stormwater overtopping SW Brookside Drive. SUDAS 2A-4.C3 requires culverts to convey 100-year discharge without headwater depth exceeding one foot below low point of road. Design pond depth does not appear to provide adequate freeboard. Please submit pond revisions, culvert calculations, and SW Brookside Drive road elevations that show SUDAS criteria have been met.

Please provide a response letter addressing all comments from this review letter and/or state what was modified to address comments.

If you have any questions or concerns, please contact Aaron Bousselot. The City reserves the right to modify or add to these comments.

Sincerely,

Aaron Bousselot

Aaron Bousselot, P.E., CFM

Copy to: Kelley Brown, City of Grimes
Joe McAreavy, Public Works Director

Fax (515) 986-3846

CITY OF GRIMES

101 Northeast Harvey Street, Grimes, Iowa 50111 515.986.3036 Fax 515.986.3846

March 16, 2012

Att: Jerry Oliver, P.E.
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12
Des Moines, Iowa 50322
Fax- 515-276-7084
Phone 515-276-4884

FedEx Ground – Site Plan
Grimes Industrial Park Plat 3 – Lot 1
2900 SW Brookside Drive

The City of Grimes and FOX Engineering has completed the 1st review of FedEx Ground Site Plan, dated March 6, 2012 and offer the following comments:

Site Plan – General

1. Please provide the current Grimes Standard Notes for Site Plans (attached).
2. Please show zoning of adjacent properties.
3. There is concern about the possible nuisance factors such as noise for this site. Please provide information about the amount of truck traffic, general loudness of the site, and whether there will be any outside loudspeakers.

Site Plan – Dimension Plan

4. Please label SW Brookside Drive on the vicinity map.
5. Please revise the third date on the construction schedule to say 6/11/2012.
6. Please contact Dave Freese at FOX Engineering to obtain elevations and locations of approved City Benchmarks that are closer to the subject site than those listed.
7. Please state the percentage of greenspace provided.
8. Please provide a breakdown of proposed parking required including calculations for: required parking stalls, handicap stalls required, proposed parking stalls, approximate number of employees, and parking setbacks.
9. There is a note on the plans to refer to detail I/D-5 for the block heater. Detail 5/DI is a trench drain. Please clarify.
10. Please show any and all proposed signage on site including handicap stall signs.

Site Plan –Utility Plan

11. Please show 150 ft fire protection radius.
12. Please provide a water main easement for the water main loop onsite. The City of Grimes will maintain the water system (ex. Hydrants). Please provide an easement description and document for the City to file with Polk County.
13. Please provide a location for a dumpster and dumpster enclosure if separate than the trash compactor.
14. Please provide screening of the transformer and all other mechanical equipment on site.
15. Please show the location of the Knox-Box
16. Please provide a detail of the connection of the water service to the structure and provide location of the post indicator valve.
17. Please show the location of the sprinkler control room.

Site Plan – Grading Plan

18. Please show the location of any downspouts.
19. Please verify that grading of handicap accessible stalls meet ADA requirements.
20. Based on the preliminary street profile for SW 28th Street, with a 0.50% grade going up to the west from SW Brookside Drive, it appears that the grass portion of the south right-of-way will need to drain into the FedEx site. This will be a coordination issue through CEC for the design of SW 28th Street, and will affect the stormwater management calculations for FedEx.

Site Plan – Paving/Striping/Fence/Gates & Signage Plan

21. Please show the entrance returns as part of the site work on this plan instead of showing it as part of the SW Brookside Drive construction work.
22. It is recommended to add PCC curb and gutter at the 4 driveway intersections on the property to protect proposed hydrants and protect grass in the radii.
23. We are concerned about the turning radii on the site. Please provide truck turning movement information for the entrance to the site (from SW Brookside Drive) and the 4 driveway corners within the fence to verify that the site will accommodate FedEx trucks as well as a City Fire truck.

Site Plan – Landscaping Plan

24. Please provide additional screening around the perimeter of the site for screening. Please space trees at 50-ft and provide vehicular headlight screening for the parking stalls on the site.

Lighting Plan

25. Please verify whether the lights will be on all the time or if light levels will be dimmed overnight. If light levels are to be lowered at night, please provide a detailed schedule of the light levels.

Stormwater Management Concept Plan

Comments under a separate cover.

Stormwater Pollution Prevention Plan

26. It was our understanding that there was going to be wetland plantings within the lower areas of this site. If this is still an option, please provide native species of wetland plants and include seed types and application rates for the different mixes.
27. Please provide a SWPPP for review.
28. Please provide NPDES permit.
29. Please submit a City of Grimes Grading/Certification for Development form.

Post Construction Stormwater Agreement

30. FOX has not received any of the necessary Post-Construction documentation for review.

Please provide a response letter addressing all comments from this review letter and/or state what was modified to address comments.

SITE PLAN SUBMITTAL SCHEDULE:

SUBMITTAL DATE:	March 28, 2012 at Grimes City Hall @ 9 AM ***(20 folded copies)***
PLANNING & ZONING:	April 3, 2012 at 5:30 PM at Grimes City Hall
COUNCIL MEETING:	April 10, 2012 at 5:30 PM at Grimes City Hall

If you have any questions or concerns, please contact Joe McAreavy. The City reserves the right to modify or add to these comments.

Sincerely,

Joe McAreavy, Public Works Director

Attachments: City of Grimes Standard Site Plan Notes

Copy to:	*Kelley Brown, City of Grimes*	*Fax (515) 986-3846*
	John Gade, FOX Engineering	*Fax (515) 233-0102*

FOX engineering

Aspen Business Park | 414 South 17th Street, Suite 107 | Ames, Iowa 50010

April 2, 2012

Jerry Oliver, P.E.
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12
Des Moines, Iowa 50322

FedEx Ground – Stormwater Management Plan
Grimes Industrial Park Plat 3, Lot 1

The City of Grimes and FOX Engineering have completed the 2nd review for the FedEx Ground Stormwater Management Plan, dated March 16, 2012 and offer the following comments:

Stormwater Management Plan/Calculations

1. Please provide detention pond routing calculations (i.e. model output, inflow/outflow hydrographs) for the revised pond outlet structure configuration.
2. Please revise the grading just north of the entrance drive. The grading plan in this area has an overflow location that could discharge storm water onto SW Brookside Drive. Please revise the grades of the entrance driveway to make it the emergency overflow into the pond to the south. IF stormwater is going to spill out of this site on public ROW we desire it to occur at one location.

Please provide a response letter addressing all comments from this review letter and/or state what was modified to address comments.

If you have any questions or concerns, please contact Aaron Bousselot. The City reserves the right to modify or add to these comments.

Sincerely,

Aaron Bousselot

Aaron Bousselot, P.E., CFM

Copy to: Kelley Brown, City of Grimes
Joe McAreavy, Public Works Director

CITY OF GRIMES

101 Northeast Harvey Street, Grimes, Iowa 50111 515.986.3036 Fax 515.986.3846

March 30, 2012

Att: Jerry Oliver, P.E.
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12
Des Moines, Iowa 50322

FedEx Ground – Site Plan
Grimes Industrial Park Plat 3 – Lot 1
2900 SW Brookside Drive

The City of Grimes and FOX Engineering has completed the 2nd review of FedEx Ground Site Plan, dated March 27, 2012 and offer the following comments:

Site Plan – General

1. Please revise the notes on the site plan. Attached is the current Grimes Standard Notes for Site Plans.

Site Plan –Utility Plan

2. Please provide a water easement description and document for the City to file with Polk County.

Site Plan – Grading Plan

3. Based on the preliminary street profile for SW 28th Street (per the preliminary plat for Grimes Industrial Park Plat 3), with a 0.50% grade going up to the west from SW Brookside Drive (Elev. 1004), it appears that the grass portion of the south right-of-way will need to drain into the FedEx site because SE 28th will be to high in elevation. This will be a coordination issue through CEC for the design of SW 28th Street, and will affect the stormwater management calculations for FedEx.

Site Plan – Paving/Striping/Fence/Gates & Signage Plan

4. Please revise the depth of paving for the entrance driveway to be a minimum of 7-inches. Please provide details in regard to the connection to SW Brookside Drive (do NOT tie into Brookside).

Site Plan – Landscaping Plan

5. Please provide additional screening around the perimeter of the site for screening. Please space trees at 50-ft and provide vehicular headlight screening for the parking stalls on the site (north and south stalls). Also, please provide evergreen plantings east of the fence between the driveway and the concrete flume near the southeast region of the site for screening purposes.

Stormwater Management Concept Plan

Comments under a separate cover.

Stormwater Pollution Prevention Plan

6. It was our understanding that there was going to be wetland plantings within the lower areas of this site. If this is still an option, please provide native species of wetland plants and include seed types and application rates for the different mixes.
7. The City will review and provide comments in regard to the SWPPP.
8. Please submit a City of Grimes Grading/Certification for Development form. We did not see it in the packet of information.

Post Construction Stormwater Agreement

9. The City has received the "Draft" Stormwater Maintenance Agreement. The City Attorney will review and provide comments.

SITE PLAN SUBMITTAL SCHEDULE:

PLANNING & ZONING:	April 3, 2012 at 5:30 PM at Grimes City Hall
COUNCIL MEETING:	April 10, 2012 at 5:30 PM at Grimes City Hall

If you have any questions or concerns, please contact Joe McAreavy. The City reserves the right to modify or add to these comments.

Sincerely,

Joe McAreavy

Joe McAreavy, Public Works Director

Attachments: City of Grimes Standard Site Plan Notes

Copy to: *Kelley Brown, City of Grimes*
John Gade, FOX Engineering

CITY OF GRIMES

101 Northeast Harvey Street, Grimes, Iowa 50111 515.986.3036 Fax 515.986.3846

April 26, 2012

Att: Jerry Oliver, P.E.
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12
Des Moines, Iowa 50322

FedEx Ground – Site Plan
Grimes Industrial Park Plat 3 – Lot 1
2900 SW Brookside Drive

The City of Grimes and FOX Engineering has completed the 3rd review of FedEx Ground Site Plan, dated April 17, 2012 and offer the following comments:

Site Plan –Utility Plan

1. Please revise the west sanitary sewer service shown as 3-inch. The minimum sanitary sewer service size is 4-inch. In addition, please show sanitary sewer cleanouts every 90-feet.

Site Plan – Paving/Striping/Fence/Gates & Signage Plan

2. Please revise the depth of paving for the entrance driveway to be a minimum of 7-inches. Please provide details in regard to the connection to SW Brookside Drive (do NOT tie into Brookside). Please provide a dimension for the width of the driveway. The plans refer to Detail 2-D1 which only shows 6-inch PCC pavement.

Stormwater Management Concept Plan

Comments under a separate cover.

Stormwater Pollution Prevention Plan

3. The City has no additional comments in regard to the SWPPP.
4. The City has received the City of Grimes Grading/Certification for Development form.

Post Construction Stormwater Agreement

5. The City has received the "Draft" Stormwater Maintenance Agreement. The City Attorney will review and provide comments.

If you have any questions or concerns, please contact Joe McAreavy. The City reserves the right to modify or add to these comments.

Sincerely,

Joe McAreavy

Joe McAreavy, Public Works Director

Copy to: *Kelley Brown, City of Grimes*
John Gade, FOX Engineering

Site Development Plan

Application Packet

1. **Application Packet. Be sure *to complete and submit all the required materials* that are a part of this Application Packet. Failure to do so will result in a delay in accepting your application until it is complete.**

   The "Application Packet for a *Site Development Plan* includes the following:
   - ☐ Application Form *(This form must be filled out completely for all applications.);*
   - ☐ Site Development Plan Checklist *(Use this Checklist to prepare the Site Development Plan).*

2. **What must be submitted?**
   - ☐ One (1) completed and signed *Application Form.*
   - ☐ One (1) completed *Site Development Plan Checklist.*
   - ☐ Three (3) copies of the *Site Development Plan,* drawn to scale on a sheet no larger than 24" x 36".
   - ☐ Additional materials, as specified on the Site *Development Plan Checklist.*
   - ☐ **Application fee:**
     - ☐ $150 for Site Development Plan in Hwy 141 Mixed Corridor. $50 for all other areas.
     - ☐ All additional costs incurred by the City for review of site plans by the City Engineer and/or City Attorney shall be reimbursed to the City in full amount by the person who filed the site plan or by said person's agent.

3. **What is the process?**
   - ☐ Schedule a pre-application meeting with the City of Grimes before the ***1st Wednesday of the month.*** Call 515-986-3036 (Joe McAreavy).
   - ☐ First Site Plans (3 copies) are due at 9:00 am on the ***2nd Wednesday of the month.*** Staff and City Engineer review plans. Comment letter to be provided to applicant for revision and resubmittal.
   - ☐ Planning and Zoning Commission shall consider submittal on ***1st Tuesday of the following month at 5:30 pm*** in Grimes City Hall.
   - ☐ City Council shall consider submittal on ***2nd Tuesday of the month at 5:30 pm*** in Grimes City Hall. (The submittal process, from first plan submission to Council consideration, is approximately 4-5 weeks).

4. **Where should submittals be made?**
   - ☐ Submit the completed ***Site Development Plan Application Packet*** to the following:

     City of Grimes
     Attn: Joe McAreavy
     101 NE Harvey Street
     Grimes, Iowa 50111

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT THE CITY OF GRIMES.

Phone:515-986-3036
FAX: 515-986-3846
JMcAreavy@ci.grimes.ia.us

Site Development Plan

Application Form

1. ***Property Address* for this *Site Development Plan:***

2. ***Legal Description*** (attach, if lengthy):

3. ***Project Name and Project Description:***

4. ***Property Owner***:

   Name:

   Street Address:

   City: State: Zip:

   Telephone: ( ) FAX: ( ) Email:

5. ***Applicant:***

   Name:

   Street Address:

   City: State: Zip:

   Telephone: ( ) FAX: ( ) Email:

6. Obtaining approval of a *Site Development Plan* does not absolve the applicant from obtaining all other applicable permits, such as Building Permits, IDOT access permits, IDNR permits, et cetera.

   I (We) certify that I (we) have submitted all the required information to apply for approval of a Site Development Plan and that the information is factual.

   Signed by:_____ **Date:_____**
   (Property Owner)

   (Note: No other signature may be substituted for the Property Owner's Signature.)

   Signed by:_____ **Date:_____**
   (Applicant)

7. ***Site Plan Fee***

   - Areas Within Highway 141 Mixed Corridor District - $150
   - All Other Areas - $50

Site Development Plan

Site Development Plan Checklist

General Information

- ❑ Three (3) copies of a Site Development Plan, drawn to scale on a sheet not to exceed 24"x 36".
- ❑ The Site Development Plan must be prepared by a Civil Engineer, a Land Surveyor, a Landscape Architect, or an Architect. The site plan must be certified as "substantially correct" by a Professional Engineer, Land Surveyor, Landscape Architect, or Architect, licensed by the State of Iowa.
- ❑ Name(s) and address(es) of the applicants). Name(s) and address(es) of the owner(s) of record of the property.
- ❑ Name and address of the person or firm preparing the site plan.
- ❑ Property address(es).
- ❑ Date of preparation.
- ❑ North arrow.
- ❑ Vicinity sketch (1"=500').
- ❑ Construction schedule.
- ❑ Scale: The scale shall not be less than 1"=10', and no greater than 1"=60', unless an alternate scale is approved by the City Engineer.
- ❑ Legal Description.
- ❑ Dimensions of the present lot and lot area, to the nearest tenth of a foot.
- ❑ Zoning designation. (State if the property is within Zone 1 or Zone 2 of the Hwy Corridor).
- ❑ Proposed use of the property in sufficient detail to determine code compliance.
- ❑ Percentage of required Green Space and percentage of Green Space provided.
- ❑ Breakdown of proposed parking required (note 1 stall is equivalent to 200 s.f.). LI Existing parking stalls. LI Required parking stalls. LI Handicap stalls required. LI Proposed parking stalls. Q Approximate number of employees. Q Parking setbacks.

Utilities Information

- ❑ Existing and proposed location and size of sanitary sewer mains and service lines, or septic tank and leaching field. Additionally the following information shall be depicted:
  - ❑ Detailed connection information (existing stub or core into existing manhole).
  - ❑ Manhole types, sizes, and castings.
  - ❑ Slope of proposed sewer.
  - ❑ Flowline of sewer.
  - ❑ Cleanout locations at a minimum of 90 feet spacing.

- ❑ Existing and proposed location and size of water mains, service lines and hydrants, and/or water well. Additionally the following information shall be depicted:
  - ❑ Connection details (tapping valve and sleeve, existing service stub, bore under road, etc.).
  - ❑ Curb stop locations.
  - ❑ Hydrant coverage (buildings must meet 150' radius requirement).

- ❑ Existing and proposed location of electrical service and the location of high-pressure gas lines, high-tension transmission lines, and telephone lines. Additionally the following information shall be depicted:
  - ❑ Screening of transformer. Screening of mechanical equipment.

- ❑ Existing and proposed location and size of storm drainage facilities on the property and adjacent to the property. Additionally the following information shall be depicted:
  - ❑ Connection details (existing stub or connection to existing intakes).
  - ❑ Storm sewer intakes (types and types of castings).
  - ❑ Storm sewer pipe (slope, pipe material, fabric wrap joints).
  - ❑

Outdoor Lighting Information

- ❑ Plans indicating the location on the premises, and the type of illuminating devices, fixtures, lamps, supports, reflectors and other devices.
- ❑ State the wattage for each lighting fixture. All lighting fixtures shall be sharp cut-off.
- ❑ List pole heights.
- ❑ Show all proposed wall packs on the site plan. All wall packs shall be sharp cut-off. Q Evidence that lighting fixtures shall be consistent with the architectural theme of the development. Q In the Hwy 141 Mixed Corridor photometric data provided by manufacturer.

Erosion Control Information

- ❑ Location of water bodies, watercourses, swamps and flood-prone areas with delineated channel encroachment lines, wetland boundary lines, 100-year flood plain boundary line, and floodway boundary line.
- ❑ When an application is located in a flood-prone area include existing and proposed site grades, contours and elevations, base flood elevation data, top-of-foundation elevations, finished floor elevations, and any proposed watercourse relocation.
- ❑ When an application for development involves 1.0 acre, or more, of cumulative disturbed area(s), a Sediment Erosion Control Plan shall be submitted and a NPDES Permit is required prior to start of grading.
- ❑ Storm water management design shall include grading, surface, and subsurface improvements that result in no increase in the rate of runoff when compared to the undeveloped condition of the area to be developed. The rainfall frequencies that shall be incorporated in the design of the storm water management plan shall include the 5-yr and 100-yr storm events. The calculations and design of the storm water management plan shall be prepared by an engineer licensed to practice in Iowa.
- ❑ A narrative needs to be submitted with the Site Development.
- ❑ The storm water management plans shall be as per the Urban Design Standards Manual.
- ❑ Storm water detention is required unless otherwise waived by the City Engineer. Developments shall detain for 100-yr developed storm event and release at the 5-yr undeveloped storm event. The storm water management plan shall illustrate the flow path for a storm event which exceeds the 100-yr storm event. LI Bio-swales or filtration swales shall be encouraged for all site plans in lieu of subsurface drainage improvements. Surface drainage improvements such as drainage flumes, drainage swales, and curb cuts may be allowed if approved by the City Engineer.

Landscaping Information

- ❑ A landscape plan showing:
  - ❑ Location of trees and shrubs. LI Plant list including the plant species, the quantity of each type of plant, the size of each plant at the time of planting.
  - ❑ Location and detail of all fences and walls.
  - ❑ Location of natural features including: existing trees, rock outcrops and landslide areas. LI See Hwy 141 ordinance for ***additional landscaping requirements.***

General Notes to Include Plans

- ❑ Possible nuisance factors and means for alleviating those factors, such as noise, odor, smoke, dust, fumes, vibration, or heat.
- ❑ Traffic impact studies, if deemed necessary by City Staff.

Stormwater Management Plan
Review Checklist for Design Professionals

Report

- Stormwater Management Plan Report outline details are located in the Iowa Stormwater Management Manual (IA Manual), Section 2A-5C.

Storm Sewer System

- Rational Method shall be used to calculate design flow rates for drainage basins smaller than 60 acres and for planning level calculations in areas up to 160 acres. NRCS WinTR-55 or USGS regression equations shall be used for areas exceeding than 160 acres.
- Design storm intakes and storm sewers for the 5-year storm event (min), post-development conditions. Design for a 10-year storm event or greater may be requested by the City for some locations.
- Design culverts in accordance with IA Manual, Section 2A-4D guidelines, and Iowa Department of Natural Resources (IDNR) regulations.
- Minimum allowable culvert size is 15-inch diameter. All public storm sewer shall be 15-inch diameter or larger.
- Minimum design pipe flow velocity is 3 ft/s.
- Vegetated swales and ditches shall have non-erosive velocities less than 5 ft/s, unless appropriate erosion control products are implemented.

Detention/Water Quality Ponds

- Precipitation and Intensity-Duration-Frequency (IDF) data shall be obtained from IA Manual, Section 2C-2.
- Detailed pond routing is required using the SCS unit hydrograph method and 24-hour rainfall events. Computer programs including Hydraflow, HydroCAD, SWMM, or other similar software are recommended. The Modified Rational Method is only an approximate method for estimating and is not acceptable for final design.
- Provide stage-storage-discharge data for ponds and outlet structures.
- Ponds shall provide detention for up to the 100-year storm event, post-development conditions. Maximum allowable pond release rates shall not exceed 5-year storm, pre-development runoff rates.
- IA Manual, Section 2C-4D, Rational Method runoff coefficients for *Undeveloped Surface, Hydrologic Soil Group B (0.12-0.17),* shall be used for calculating pre-development runoff rates.

- Pond emergency spillways shall be designed convey 100-year runoff for post-development conditions.
- Pond freeboard 1-ft above the 100-year water surface elevation is required.
- If ponds outlet to natural channels, stream channel protection is required. Ponds shall provide detention for the 1-year storm event. Release rates for 1-year storage shall not exceed 1-year storm pre-development runoff rates.
- All ponds shall provide water quality volume storage for the 1.25 inch (90% cumulative frequency) rainfall event per IA Manual, Section 2B-1C.
- Water quality volume shall be released over a 24-hour period (min). Average and maximum water quality release rates shall be calculated in accordance with IA Manual, Section 2C-12.C-1.

Infiltration Facilities

- If a bioretention area, filter strip, or other infiltration practice will include a subdrain outlet, water quality volume shall be released no faster than a 24-hour (min) period.
- Engineered soils to improve infiltration shall be in accordance with IA Manual Section 2E-4.

Floodplains

- Research shall be conducted to determine locations of existing floodplain/floodway limits in or near the project site.
- If the site contains a FEMA regulated 100-year floodplain, a Grimes Floodplain Development Permit and Iowa Department of Natural Resources (IDNR) Floodplain Development Permit are required.
- Site drawings shall include floodplain/floodway limits.
- Submittals shall include FEMA Flood Insurance Rate Map (FIRM) information.
- National Flood Insurance Program (NFIP) regulations will apply.

Wetlands

- Research shall be conducted to determine if the project site contains wetlands.
- If the site has wetlands, delineation and disturbance area calculations will be required.
- Wetland information shall be submitted to the U.S. Army Corps of Engineers for review and jurisdictional wetland determination.
- Wetland protection and mitigation information is required.

The City of Grimes can provide additional guidance upon request. Any questions or comments regarding this document should be referred to:

City of Grimes
101 NE Harvey Street
Grimes, Iowa 50111
(515) 986-3036
www.grimesiowa.gov

Preparer Information:_____

Name | Street Address | City, State Zip | Area Code-Phone

When Recorded Return to:

City of Grimes, | 101 NE Harvey, | Grimes, Iowa 50111 | (515) 986-3036

Name | Street Address | City, State Zip | Area Code-Phone

Legal Description: [Page ____/Exhibit ___]

[NAME OF DEVELOPMENT] STORM WATER MANAGEMENT FACILITY MAINTENANCE COVENANT AND PERMANENT EASEMENT AGREEMENT

THIS STORM WATER MANAGEMENT FACILITY MAINTENANCE COVENANT AND PERMANENT EASEMENT AGREEMENT ("**Agreement**") is entered into between _____ ("**Grantor**") and the **City of Grimes, Iowa** ("**City**"), in consideration for the approval by the City of the **[subdivision plat/site plan/grading permit]**.

Grantor is obligated by the Code of Ordinances of the City of Grimes, Chapter 104 ("**Post-Construction Storm Water Ordinance**"), to control storm water runoff for the proposed development as a part of the **[subdivision plat/site plan/grading permit]** approval process. In consideration for the City's approval of Grantor's **[subdivision plat/site plan/grading permit]**, the parties enter into this Agreement to control and address storm water runoff for the following described property:

[insert legal description]

(the "**Benefited Property**").

PART I – COVENANTS ON THE BENEFITED PROPERTY

The following provisions are covenants running with the land to the City, binding on all successors and assigns of the Benefited Property and shall only be amended or released with the written permission of the City.

1. Grantor hereby agrees that the storm water runoff for the subdivision/site shall be controlled through installation, construction, and maintenance of a **[insert Storm Water Management Facility]** ("**Storm Water Management Facility**") upon, over, under, through and across the following described property:

   [insert legal description for easement only]

(the "**Easement Area**").

2. Grantor covenants and agrees that the design, construction, and maintenance of the Storm Water Management Facility shall be in compliance with the stormwater management concept plan, as provided in the Post-

Construction Storm Water Ordinance ("**Stormwater Management Concept Plan**"), on file with the City and which is available for public inspection. The design, construction, and maintenance of the Storm Water Management Facility shall meet the storm water runoff control requirements of the Post-Construction Storm Water Ordinance.

3. It is hereby agreed and covenanted that the Benefited Property receives benefit from the Storm Water Management Facility by controlling runoff from the Benefited Property to meet the requirements of the Post-Construction Storm Water Ordinance and the City stormwater requirements as defined by the Post-Construction Storm Water Ordinance.

4. It is hereby agreed that Grantor is solely responsible for constructing, installing, and ensuring that the Storm Water Management Facility meets the standard set forth in the Post-Construction Storm Water Ordinance.

5. Grantor hereby designates, appoints, and agrees on behalf of Grantor and all successors and assigns that the Grantor is designated as the responsible party for replacement, reconstruction, repair, grading, and maintenance of the Storm Water Management Facility.

6. Grantor hereby covenants and agrees that Grantor is hereby designated and authorized to accept notices and service of process as it relates to the inspection, replacement, reconstruction, repair, grading, and maintenance of the Storm Water Management Facility or permanent easement or notice of assessment for replacement, reconstruction, repair, grading, and maintenance of the Storm Water Management Facility.

7. Grantor shall be responsible for all maintenance, repair, and replacement of the Storm Water Management Facility.

8. Grantor shall inspect the Storm Water Management Facility on an annual basis, including but not limited to all pipes, inlets, and outlets for defects, obstructions, or any changes in the Storm Water Management Facility from the original design of the Storm Water Management Facility. The inspection shall be documented. The inspection shall be made available to the City for review upon request and shall be kept and maintained for a period of 5 years.

9. Should Grantor fail to maintain, reconstruct, repair, grade, or dredge the Storm Water Management Facility or the Easement Area upon notice from the City, the City may cause such action to be done and assessed to the Benefited Property. The assessments shall be a lien on the Benefited Property and place on the real estate tax bill and collected as ordinary taxes.

PART II – Easement for Storm Water Management Facility and Surface Water Flowage

The following provisions in Part II herein are for a permanent easement over the Easement Area running with the land to the City.

10. Grantor hereby grants to the City a Permanent Surface Water Flowage Easement and Storm Water Management Facility under, over, through and across the Easement Area for the purpose of constructing, reconstructing, repairing, grading, and maintaining the Storm Water Management Facility and the surface of the Easement Area in a manner that will permit the free and unobstructed flow of surface water over the Easement Area.

11. It is the obligation of the Grantor and all subsequent owners of the Easement Area to maintain the Easement Area and the Storm Water Management Facility as set forth below. The Grantor and all subsequent owners of the Easement Area shall perform the maintenance obligations set forth below. The maintenance obligations for the Storm Water Management Facility are as follows:

    Storm water detention and retention ponds or basins:

    a. Mow on a regular basis to maintain the vegetation at the height designated on the original design to prevent erosion.
    b. Remove all trash, litter, debris or obstructions in the basin in the Easement Area and any inlets or outlets located within the Easement Area.

c. Plant, maintain and replant as necessary permitted vegetation.
d. Inspect for any defects, obstructions, or any changes in the original design.
e. Inspect and determine the depth of the pond or basin on an annual basis.
f. Remove any accumulated sediment from the outlet structures and remove any sediment which may accumulate greater than 12 inches in ponds or basins and greater than 6 inches in an underground detention basin.
g. [Till the soil at the bottom of the riparian buffer if it does not drain out within the time established in the design plan and replant vegetation as designated on the original design.]
h. All repairs shall conform to the original design.
i. Maintaining the storm water and retention pond or basin to assure the effectiveness for storm water runoff for the subdivision/site.

Grass and Bioretention Swales:

a. Mow on a regular basis to maintain the vegetation at the height designated on the original design to prevent erosion.
b. Remove all trash, litter, debris or obstructions in the grass or bioretention swale and Easement Area.
c. No chemicals or substances shall be applied to the Easement Area that shall harm or impair the effectiveness of the swale as a storm water runoff control measure.
d. Replant vegetation as soon as practical when any vegetation dies.
e. Inspect and determine the depth of the swale on an annual basis.
f. Remove any sediment accumulated greater than 6 inches which may accumulate in the swale.
g. Till the soil at the bottom of the swale if the grass swale does not drain out within the time established in the design plan and replant vegetation as designated on the original design.
h. All repairs shall conform to the original design.
i. Maintain the grass and/or bioretention swale to assure the effectiveness for storm water runoff for the subdivision/site.

[Riparian Buffer:

a. Mow on a regular basis to maintain the vegetation at the height designated on the original design to prevent erosion.
b. Replant the vegetation in the Easement Area as soon as practical when any vegetation dies.
c. Remove all trash, litter, debris or obstructions in the Easement Area.
d. Inspect for erosion in the riparian buffer on an annual basis.
e. Inspect and determine the depth of the riparian buffer on an annual basis.
f. Remove any sediment accumulated greater than 25% of the original design depth.
g. Till the soil at the bottom of the riparian buffer if it does not drain out within the time established in the design plan and replant vegetation as designated on the original design.
h. All repairs shall conform to the original design.
i. Maintain the riparian buffer to assure the effectiveness for storm water runoff for the subdivision/site.]

12. No chemicals or any substance shall be applied to the Storm Water Management Facility that shall harm or impair the effectiveness of the Storm Water Management Facility as a storm water runoff control measure.

13. No structure shall be erected over or within the Easement Area without obtaining the prior written approval of the City Engineer.

14. No structure, material, device, thing or matter which could possibly obstruct or impede the normal flow of surface water over the Easement Area shall be erected or caused to be placed on the Easement Area without obtaining the prior written approval of the City Engineer.

15. No planting of trees and shrubs is allowed within the Easement Area (other than planting allowed and required pursuant to the original Stormwater Management Concept Plan on file with the City).

16. No change shall be made to the grade, elevation or contour of any part of the Easement Area without obtaining the prior written consent of the City Engineer.

17. The City and its agents, contractors, employees and assigns shall have the right of access to the Easement Area and have all rights of ingress and egress reasonably necessary for the use and enjoyment of the Easement Area as herein described, including, but not limited to, the right to remove any unauthorized plantings, structures, or obstructions placed or erected under, over, on, across or within the Easement Area and the right to do maintenance, repair, reconstruction, grading, and dredging.

18. Except as may be caused by the negligent acts or omissions of the City, its employees, agents, or its representatives, the City shall not be liable for injury or property damage occurring in or to the Easement Area, the property abutting said Easement Area, nor for property damage to any improvements or obstructions thereon resulting from the City's exercise of its rights under this Agreement. Grantor agrees to indemnify and hold City, its employees, agents, and representatives harmless against any loss, damage, injury or any claim or lawsuit for loss, damage or injury arising out of or resulting from the negligent or intentional acts or omissions of Grantor or its employees, agents or representatives.

19. This Agreement shall be deemed perpetual and to run with the land and shall be binding on Grantor and on Grantor's heirs, successors, and assigns.

Grantor does hereby covenant with the City that Grantor holds said real estate described in this Agreement by title in fee simple; that Grantor has good and lawful authority to convey the same; and said Grantor covenants to warrant and defend the said premises against the lawful claims of all persons whomsoever.

Each of the undersigned hereby relinquishes all rights of dower, homestead and distributive share, if any, in and to the interests conveyed by this Agreement.

Words and phrases herein, including acknowledgment hereof, shall be construed as in the singular or plural number, and as masculine or feminine gender, according to the context.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

Signed this day of , 20 .

GRANTOR: _____

By: _____

Name: _____

Title: _____

Address: _____

_____

_____

STATE OF IOWA)
)SS
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 20__, by _____ as _____ of _____.

_____
Notary Public in and for the State of Iowa

[OR insert appropriate notary here for Grantor(s)]

CITY OF GRIMES, IOWA

I, Rochelle Williams, City Clerk of the City of Grimes, Iowa, do hereby certify that the within and foregoing Agreement was duly approved and accepted by the City Council of said City of Grimes by Resolution and Roll Call No. _____, passed on the _____ day of _____, 20_____, and this certificate is made pursuant to authority contained in said Resolution.

Signed this _____ day of _____, 20_____.

_____

Rochelle Williams
City Clerk of the City of Grimes, Iowa

Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

July 23, 2013

ATTN: Kelley Brown
City of Grimes
101 N. Harvey St.
Grimes, Iowa 50111

RE: Municipal Separate Storm Sewer System (MS4) Inspection
Notice of Noncompliance
NPDES Permit No. 77-91-0-01

Dear Ms. Brown:

Enclosed is the report completed by Kate Bason of the Field Office #5 staff following the inspection of your MS4 program. We believe you will find the report self-explanatory.

Over-all, the City of Grimes appears to have made substantial efforts to develop a well-managed MS4 program. However, please note those items listed as NC (noncompliant) in the report. Your attention is directed to the Requirements, Reminder and Recommendations summarized at the end of the report. **By August 23, 2013**, we request a written explanation of measures that have been taken to remedy noncompliant components of the program which are summarized as Requirements at the end of the report.

We appreciate the assistance provided by Messrs McAreavy, Clyce and Williamson in completing this inspection.

You may contact Ms. Bason (515-725-0333; kate.bason@dnr.iowa.gov) or this office with any questions or comments, or if you feel this report does not accurately reflect the City's MS4 program.

Sincerely,

Ted Petersen
Supervisor, Field Office #5

C: Joe Griffin, NPDES Permits Section-IDNR (w/encl.,via email)
Brandt Williamson, Fox Engineering, 1601 Golden Aspen Dr., Suite 103, Ames, IA 50010 (w/encl.,via email)

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL SERVICES DIVISION
Field Office #5
401 S.W. 7th St., Suite I, Des Moines, Iowa 50309-4611
Phone: (515) 725-0268 FAX: (515) 725-0218

REPORT OF INSPECTION

INVESTIGATION DATE	**CURRENT:** 6/27/13	**LAST:** 7/17/2009
TO:	City of Grimes 101 N. Harvey St., Grimes, Iowa 50111	
SUBJECT:	Storm Water MS-4 Compliance Inspection Iowa NPDES Permit No: 77-01-0-01	
PERSONS CONTACTED:	Joe McAreavy, City of Grimes Public Works Director Scott Clyce, City of Grimes Building Inspector Brandt Williamson, Fox Engineering	Phone:515-986-3036 515-986-3036 515-291-0595

Introduction

The departmental compliance inspection of the City's MS4 program was made on June 27, 2013. The scope of the inspection included an evaluation of the permit requirements, review of the most recent annual report (covering CY 2012), discussions pertaining to the city's storm water program, spot records checks and on-site visits. Messrs. McAreavy and Williamson accompanied me.

Iowa NPDES Permit

The City of Grimes Iowa NPDES Permit for the discharge of storm water for its Municipal Separate Storm Sewer System (MS4), totaling approximately 12 square miles, was re-issued an on January 8, 2010. The permit expiration date is January 13, 2015. The sections of this report are numbered in reference to the NPDES MS4 permit.

Part II A. Public Education and Outreach on Storm Water Impacts

Permit requirements	C	NC
Articles in the city newsletter - at least 6 articles are required. The city utilized the newsletter, city web site and social media to inform the public regarding storm water issues, including the need, development and adoption of a storm water utility.	X	
Telephone hotline number - The City utilizes the main line to be the number for reporting problems. This is not a 24-hour hotline, however, the city uses 911 as the after hours hotline and, in the event of after-hours spills or releases that need to be handled immediately, city staff can be reached by dispatch. Joe McAreavy and Kelly Brown are the initial contacts.	X	
Informational brochure	X	

C = compliant, NC = Not compliant

Comments: The City contracted with UEP (Urban Environmental Partnership) and ISWEP (Iowa Storm Water Education Program) to identify targets and goals, and to share resources such as training and educational brochures, with the other members. The number of articles published should be quantified in the annual report.

Staff reported that the city has been replacing Main Street intakes which are now cast with notice that the intake drains to the creek.

The City has developed measurable goals and included storm water elements in its comprehensive planning document. Staff reported that the city has been undertaking an I/I (infiltration/inflow) identification and reduction program (of clear water entering the sanitary system) and, in conjunction, have been evaluating the storm sewer system for improper connections of sanitary wastewater into the storm water system, with no improper connections found to date.

Part II B. Public Involvement and Participation

Permit requirements	C	NC
Storm water advisory committee – At least 1 meeting per year is required which was not completed during the past year. The advisory committee is not currently complete since it includes only city staff and the consultant. Members must include the public, as indicated in the permit. The annual report indicated a goal to "expand meeting involvement".		X
Adopt-a-Stream – The permit requires the city to organize volunteers such that at least 50% of stream reaches in the city are covered by volunteers who will agree to periodically pick up litter in their required stream reach. Although the program is reportedly developed, it has not been implemented. This requirement was to be met by January 13, 2010 as indicated in the prior (expired) permit. However, flooding issues and liability concerns reportedly delayed the work. The city instead implemented stream restoration projects, including a drainage channel study and flood mitigation program. In 2011 and 2012, grading, cleaning, reseeding and placing rock checks in the Little Beaver Creek tributary from East 1st to the wastewater treatment plant was completed. The channel was reportedly widened to 60 feet and deepened to 15 feet for the entire reach, in order to increase detention and allow safe access. Approximately 6,000 linear feet of channel for Little Beaver Creek and Little Beaver Creek Tributary were cleaned and restored, in addition to some smaller areas that were heavily littered. The time frame for the Adopt-a-Stream program was not met but the program has been developed, the school has been contacted and plans are to complete this commitment prior to permit expiration.		X

C = compliant, NC = Not compliant

Comments:
The storm water Advisory Committee must be expanded to include the public and must meet at least annually and the Adopt-a-Stream program must be implemented, as required by the NPDES MS4 permit.

The city is encouraged to consider demonstration projects, such as rain gardens, vegetated swales, or other structural BMPs (Best Management Practices) to slow, filter, infiltrate and manage storm water flow.

Part II C. Illicit Discharge Detection and Elimination

Permit requirements	C	NC
Illicit discharge prohibition ordinance	X	
Illicit discharge detection and elimination program – Dry weather inspections were completed in 2010 and documented, using the mapping system for reference points. Staff reported that outfalls are now observed weekly and televising of the sanitary sewer system is ongoing as the city continues efforts to minimize clear water entering the sanitary system. The city has found that documentation is assisted by the use of texted emails from the field. Seven instances of what the city considered illicit discharges were documented; these involved concrete wash-outs and sanitary repairs which were addressed by staff the same day. Additionally, one instance of mud in the creek was investigated with DNR staff. As a reminder, illicit discharges must be reported to the department no later than the end of the first business day after discovery. Examples of instances that must be reported include the prohibited connection of sanitary wastewater to the MS4 or discharge of pollutants not covered by an NPDES permit.	X	
Storm sewer system map – Mapping has been completed and is updated with new projects.	X	

C = compliant, NC = Not compliant

Part II D. Construction Site Runoff Control

Permit requirements	C	NC
Construction site runoff control ordinance – A summary is included with annual report. **Permit requirements** (continued)	X	
Construction site review and inspection program – Prior to development, city staff meet with all developers in a "Preconstruction meeting" where the developers are provided with storm water information and requirements. Meetings are summarized in the annual report. Fox Engineering conducts the site plan reviews of developments requiring a General Permit #2, as well as the quarterly inspections of construction sites. When lots are sold and the responsibility for compliance is transferred to the new owner, the city building inspector takes over the SWPPP review and inspects each lot at least twice, with much more frequent visits. Inspections, problems and warnings were documented.	X	

C = compliant, NC = Not compliant

Part II E. Post Construction Storm Water Management

Permit requirements	C	NC
Post-construction site runoff control ordinance – The permit requires the ordinance to address the control of run-off after construction has been completed and to consider water quality and water quantity components in the design of new construction, implementing them when practical. A copy of the ordinance was provided with the 2010 annual report.	X	
Site plan review of post-construction runoff control devices – Fox Engineering reviews site plans to determine compliance with the post-construction ordinance. A concrete flume was installed at the FedEx facility which was permitted on 3/20/12. Additional information was provided following the inspection, documenting storm water must be detained onsite for the 100-year flood event, released at a rate no greater than the predevelopment 5-year run-off rate, and topsoil at the site must be not less than 6 inches. A pond, located below the flume, was required to be enlarged. Infiltrative structures, such as pervious pavement, bioswales or other mechanisms to slow/infiltrate storm water need to be evaluated with every project	X	
Inspection of run-off control devices - Municipally owned storm water control devices and structures must be inspected for proper maintenance and educational materials shall be developed and made available to landowners which outline proper maintenance procedures. City staff report structures such as beehives and intakes are regularly observed but no municipally-owned structural controls were yet in place. The regional basin, located at Lower Beaver and HWY 44, is owned and maintained by the Homeowners Association. Maintenance agreements are utilized as a mechanism for specifying who is responsible for the long-term maintenance of run-off control devices (post-construction BMPs). One example was Autumn Park plat II which had a notarized agreement which specifies each parties obligations. An outline of maintenance requirements is provided and inspections must be documented no less than annually. The city will eventually take over the inspections; however, the developer is initially responsible for these documented inspections. Such agreements are reportedly filed with the County Recorder so the agreement will remain attached to the property. The agreement requires any amendments to be signed by both parties and filed with the County Recorder.	X	
Watershed assessment program – The permit requires a watershed assessment program and comprehensive land use plan to be implemented which outlines measures that will be used to reduce flooding, reduce erosion in streams and ditches, reduce degradation of habitat for fish and wildlife and improve water quality. Although a city-wide watershed assessment has not been completed, a copy of the comprehensive development plan (w/ storm water components) was adopted 9/14/2010, included w/ the 2010 annual report and is available on the web site. The flood mitigation study was completed and implemented. Additionally, the city has continued to conduct stream restoration projects, outlined in the annual reports. These combined actions suggest the city is in substantial compliance with this requirement.	X	

Comments:
The city needs to continue to implement the post-construction requirements of the permit, expanding the watershed assessment to cover all portions of the MS4.

The City appears to have a mechanism in place so post-construction BMPs will be inspected and maintained.

Part II F. Pollution Prevention/House Keeping
This section of the NPDES Permit addresses preventing and reducing pollutant runoff from municipal operations.

Permit requirements	C	NC
Pet Waste Ordinance -	X	
Operation and Maintenance of the MS4 – City staff inspect above-ground components of the MS4 every Monday and cleans or addresses identified problems. Streets are swept in the spring and fall with heavier-traffic areas swept more often. Street sweepings are recorded and disposal of sweepings is at the city wastewater treatment plant where they are dried and land applied. No problems were noted at the land application site; however, this Department has historically considered street sweepings solid waste because of the potential for (metals, petroleum or other) pollutants to be in the sweepings. Solid waste must be taken to an approved sanitary landfill with some exceptions. Chapter 567 121(455B) allows exceptions for land application of solid waste without a permit, providing specific site criteria and analytical results are met. The site appeared to have minimal run-off potential, however, there is a potential for future liability should contamination be found at a later date. If the land application is to continue, the city should develop a monitoring plan to ensure the requirements of Chapter 121 are met. Additional information and links to the rule are available at www. iowadnr.gov.	X	
Pesticide and fertilizer management program – The permit requires the city to develop a pesticide and fertilizer management program which shall reduce pollutant discharge associated with the handling, storage and application of these chemicals. The city contracts with local companies with licensed applicators for all pesticide or fertilizer application and report no handling or storage is conducted by city staff. Even if the handling and application is contracted, it does not relieve the City of developing this program, including maintaining documentation of the amounts applied, applicator information (name and license number), and determining whether lower amounts of pesticides may be used. Staff reported that this information could be obtained from the applicators. The data should be summarized and included in the annual report so an evaluation of use over time can be made. Alternatives to application, such as different types of plantings or evaluation of need, should be considered. This program must be fully developed.		X
Training program for municipal employees – City staff and Fox Engineering staff have attended training and records of training are maintained.	X	
City facilities BMPs – The city maintenance shop has spill kits and silt socks. Written BMPs were included in the annual report.	X	

C = compliant, NC = Not compliant

Comments:
If the land application is to continue, the city is should develop a written monitoring plan to ensure the requirements of Chapter 121 are met.

The City must develop and implement a pesticide and fertilizer management program to reduce pollutant discharge associated with the application of pesticides and fertilizers. Data regarding the application rates must be gathered and evaluated to determine if lower rates would be equally effective. A summary (and evaluation) of the data needs to be included in the annual report.

Part III. Reporting Requirements
Annual reports were received in 2012 and 2013 shortly after the required submittal date of January 31. The reports appear to include required information, with the exception of the fertilizer/pesticide data. Measurable goals and public education efforts were summarized in the annual report. The report suggests staff use measurable goals to evaluate the MS4 program components.

A summary of monitoring data, if it exists, must be included along with a narrative description of storm water improvements or degradation. Data can then be analyzed over time for trends. There are some reported lowater sampling points. The City is encouraged to promote the use of this volunteer water monitoring program as a mechanism for evaluating the water quality/quantity and involving the public in the water quality improvements.

The City has developed and adopted a storm water utility and is commended for taking this important step to ensure this program is adequately funded.

REQUIREMENTS:

Part II.B. The Storm Water Advisory Committee must be expanded to include the public and must meet at least annually.

The Adopt-a-Stream program must be implemented, as required by the NPDES MS4 permit.

Part II.F. Develop and implement a pesticide/ fertilizer management program to reduce pollutant discharge associated with the application of pesticides and fertilizers. Data regarding the application rates must be gathered and evaluated to determine if lower rates would be equally effective. A summary (and evaluation) of the data needs to be included in the annual report.

REMINDER:

Part III.
A summary of monitoring data, if it exists, must be included along with a narrative description of storm water improvements or degradation. Data can then be analyzed over time for trends. There are some reported lowater sampling points. The City is encouraged to promote the use of this volunteer water monitoring program as a mechanism for evaluating the water quality/quantity and involving the public in the water quality improvements.

RECOMMENDATIONS:

Part II.A. The number of articles published should be quantified in annual report.

Part II.E. The city needs to continue to implement the post-construction requirements of the permit, expanding the watershed assessment to cover all portions of the MS4.

Part II.F. If the land application is to continue, the city is should develop a written monitoring plan to ensure the requirements of Chapter 121 are met.

AUTHENTICATION	
INSPECTOR: Kate Bason, Environmental Specialist	**DATE:** 7/18/13
REVIEWER: Dave Perry, Environmental Specialist Senior	**DATE:** 7-23-13

Zimbra **sbw@foxeng.com**

City of Grimes MS4 inspection report

From : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov> Wed, Jul 24, 2013 08:24 AM

Subject : City of Grimes MS4 inspection report 5 attachments

To : Brandt Williamson <sbw@foxeng.com>, Joe McAreavy <jmcareavy@ci.grimes.ia.us>, sclyce@ci.grimes.ia.us

Good Morning,

Here is a copy of the inspection report . Thank-you (all) for your assistance during the inspection – your efforts are appreciated. Let me know if you have any questions and feel free to call if you wish.

Thanks,
Kate

KATE BASON Environmental Specialist

Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
Field Office #5, 401 S.W. 7th St., Suite I, Des Moines, IA 50309-4611

WWW.IOWADNR.GOV

Leading Iowans in Caring for Our Natural Resources.

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on 8:30 a.m.
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Grimes MS-4 7791001 6-27-2013.pdf
562 KB

Zimbra **sbw@foxeng.com**

Re: City of Grimes MS4 inspection report - correction

From : Brandt Williamson <sbw@foxeng.com> Tue, Jul 30, 2013 01:27 PM
Subject : Re: City of Grimes MS4 inspection report - correction 4 attachments
To : Kate Bason [DNR] <Kate.Bason@dnr.iowa.gov>
Cc : Joe Griffin [DNR] <Joe.Griffin@dnr.iowa.gov>, Joe McAreavy <jmcareavy@ci.grimes.ia.us>, sclyce@ci.grimes.ia.us

Kate,
Your thoroughness is appreciated.
Brandt

From: "Kate Bason [DNR]" <Kate.Bason@dnr.iowa.gov>
To: "Brandt Williamson" <sbw@foxeng.com>, "Joe McAreavy" <jmcareavy@ci.grimes.ia.us>, sclyce@ci.grimes.ia.us
Cc: "Joe Griffin [DNR]" <Joe.Griffin@dnr.iowa.gov>
Sent: Tuesday, July 30, 2013 1:13:00 PM
Subject: RE: City of Grimes MS4 inspection report - correction

Here is a revised inspection report. I have corrected the NPDES number – sorry for the error.

Kate

KATE BASON Environmental Specialist
Iowa Department of Natural Resources
P 515.725.0333 | F 515.725.0218 | Kate.Bason@dnr.iowa.gov
Field Office #5, 401 S.W. 7th St., Suite I, Des Moines, IA 50309-4611
WWW.IOWADNR.GOV
Leading Iowans in Caring for Our Natural Resources.

From: Bason, Kate [DNR]
Sent: Wednesday, July 24, 2013 8:24 AM
To: 'Brandt Williamson'; Joe McAreavy; 'sclyce@ci.grimes.ia.us'
Subject: City of Grimes MS4 inspection report

Good Morning,

Here is a copy of the inspection report . Thank-you (all) for your assistance during the inspection – your efforts are appreciated. Let me know if you have any questions and feel free to call if you wish.

Thanks,
Kate

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Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

July 30, 2013

ATTN: Kelley Brown
City of Grimes
101 N. Harvey St.
Grimes, Iowa 50111

RE: Municipal Separate Storm Sewer System (MS4) Inspection
Notice of Noncompliance
NPDES Permit No. 77-36-0-02

Dear Ms. Brown:

We are resending the report completed by Kate Bason of the Field Office #5 staff following the inspection of your MS4 program, with the corrected NPDES number and additional staff copied (below). No other changes were made. We believe you will find the report self-explanatory.

Over-all, the City of Grimes appears to have made substantial efforts to develop a well-managed MS4 program. However, please note those items listed as NC (noncompliant) in the report. Your attention is directed to the Requirements, Reminder and Recommendations summarized at the end of the report. **By August 23, 2013**, we request a written explanation of measures that have been taken to remedy noncompliant components of the program which are summarized as Requirements at the end of the report.

We appreciate the assistance provided by Messrs McAreavy, Clyce and Williamson in completing this inspection.

You may contact Ms. Bason (515-725-0333; kate.bason@dnr.iowa.gov) or this office with any questions or comments, or if you feel this report does not accurately reflect the City's MS4 program.

Sincerely,

Ted Petersen
Supervisor, Field Office #5

C: Joe Griffin, NPDES Permits Section-IDNR (w/encl.,via email)
Brandt Williamson, Fox Engineering, 1601 Golden Aspen Dr., Suite 103, Ames, IA 50010 (w/encl.,via email)
Joe McAreavy (w/encl.,via email)
Scott Clyce (w/encl.,via email)

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL SERVICES DIVISION
Field Office #5
401 S.W. 7th St., Suite I, Des Moines, Iowa 50309-4611
Phone: (515) 725-0268 FAX: (515) 725-0218

REPORT OF INSPECTION

INVESTIGATION DATE	**CURRENT:** 6/27/13	**LAST:** 7/17/2009
TO:	City of Grimes 101 N. Harvey St., Grimes, Iowa 50111	
SUBJECT:	Storm Water MS-4 Compliance Inspection Iowa NPDES Permit No: 77-36-0-02	
PERSONS CONTACTED:	Joe McAreavy, City of Grimes Public Works Director Scott Clyce, City of Grimes Building Inspector Brandt Williamson, Fox Engineering	Phone:515-986-3036 515-986-3036 515-291-0595

Introduction

The departmental compliance inspection of the City's MS4 program was made on June 27, 2013. The scope of the inspection included an evaluation of the permit requirements, review of the most recent annual report (covering CY 2012), discussions pertaining to the city's storm water program, spot records checks and on-site visits. Messrs. McAreavy and Williamson accompanied me.

Iowa NPDES Permit

The City of Grimes Iowa NPDES Permit for the discharge of storm water for its Municipal Separate Storm Sewer System (MS4), totaling approximately 12 square miles, was re-issued an on January 8, 2010. The permit expiration date is January 13, 2015. The sections of this report are numbered in reference to the NPDES MS4 permit.

Part II A. Public Education and Outreach on Storm Water Impacts

Permit requirements	C	NC
Articles in the city newsletter - at least 6 articles are required. The city utilized the newsletter, city web site and social media to inform the public regarding storm water issues, including the need, development and adoption of a storm water utility.	X	
Telephone hotline number - The City utilizes the main line to be the number for reporting problems. This is not a 24-hour hotline, however, the city uses 911 as the after hours hotline and, in the event of after-hours spills or releases that need to be handled immediately, city staff can be reached by dispatch. Joe McAreavy and Kelly Brown are the initial contacts.	X	
Informational brochure	X	

C = compliant, NC = Not compliant

Comments: The City contracted with UEP (Urban Environmental Partnership) and ISWEP (Iowa Storm Water Education Program) to identify targets and goals, and to share resources such as training and educational brochures, with the other members. The number of articles published should be quantified in the annual report.

Staff reported that the city has been replacing Main Street intakes which are now cast with notice that the intake drains to the creek.

The City has developed measurable goals and included storm water elements in its comprehensive planning document. Staff reported that the city has been undertaking an I/I (infiltration/inflow) identification and reduction program (of clear water entering the sanitary system) and, in conjunction, have been evaluating the storm sewer system for improper connections of sanitary wastewater into the storm water system, with no improper connections found to date.

Part II B. Public Involvement and Participation

Permit requirements	C	NC
Storm water advisory committee – At least 1 meeting per year is required which was not completed during the past year. The advisory committee is not currently complete since it includes only city staff and the consultant. Members must include the public, as indicated in the permit. The annual report indicated a goal to "expand meeting involvement".		X
Adopt-a-Stream – The permit requires the city to organize volunteers such that at least 50% of stream reaches in the city are covered by volunteers who will agree to periodically pick up litter in their required stream reach. Although the program is reportedly developed, it has not been implemented. This requirement was to be met by January 13, 2010 as indicated in the prior (expired) permit. However, flooding issues and liability concerns reportedly delayed the work. The city instead implemented stream restoration projects, including a drainage channel study and flood mitigation program. In 2011 and 2012, grading, cleaning, reseeding and placing rock checks in the Little Beaver Creek tributary from East 1st to the wastewater treatment plant was completed. The channel was reportedly widened to 60 feet and deepened to 15 feet for the entire reach, in order to increase detention and allow safe access. Approximately 6,000 linear feet of channel for Little Beaver Creek and Little Beaver Creek Tributary were cleaned and restored, in addition to some smaller areas that were heavily littered. The time frame for the Adopt-a-Stream program was not met but the program has been developed, the school has been contacted and plans are to complete this commitment prior to permit expiration.		X

C = compliant, NC = Not compliant

Comments:
The storm water Advisory Committee must be expanded to include the public and must meet at least annually and the Adopt-a-Stream program must be implemented, as required by the NPDES MS4 permit.

The city is encouraged to consider demonstration projects, such as rain gardens, vegetated swales, or other structural BMPs (Best Management Practices) to slow, filter, infiltrate and manage storm water flow.

Part II C. Illicit Discharge Detection and Elimination

Permit requirements	C	NC
Illicit discharge prohibition ordinance	X	
Illicit discharge detection and elimination program – Dry weather inspections were completed in 2010 and documented, using the mapping system for reference points. Staff reported that outfalls are now observed weekly and televising of the sanitary sewer system is ongoing as the city continues efforts to minimize clear water entering the sanitary system. The city has found that documentation is assisted by the use of texted emails from the field. Seven instances of what the city considered illicit discharges were documented; these involved concrete wash-outs and sanitary repairs which were addressed by staff the same day. Additionally, one instance of mud in the creek was investigated with DNR staff. As a reminder, illicit discharges must be reported to the department no later than the end of the first business day after discovery. Examples of instances that must be reported include the prohibited connection of sanitary wastewater to the MS4 or discharge of pollutants not covered by an NPDES permit.	X	
Storm sewer system map – Mapping has been completed and is updated with new projects.	X	

C = compliant, NC = Not compliant

Part II D. Construction Site Runoff Control

Permit requirements	C	NC
Construction site runoff control ordinance – A summary is included with annual report. **Permit requirements** (continued)	X	
Construction site review and inspection program – Prior to development, city staff meet with all developers in a "Preconstruction meeting" where the developers are provided with storm water information and requirements. Meetings are summarized in the annual report. Fox Engineering conducts the site plan reviews of developments requiring a General Permit #2, as well as the quarterly inspections of construction sites. When lots are sold and the responsibility for compliance is transferred to the new owner, the city building inspector takes over the SWPPP review and inspects each lot at least twice, with much more frequent visits. Inspections, problems and warnings were documented.	X	

C = compliant, NC = Not compliant

Part II E. Post Construction Storm Water Management

Permit requirements	C	NC
Post-construction site runoff control ordinance – The permit requires the ordinance to address the control of run-off after construction has been completed and to consider water quality and water quantity components in the design of new construction, implementing them when practical. A copy of the ordinance was provided with the 2010 annual report.	X	
Site plan review of post-construction runoff control devices – Fox Engineering reviews site plans to determine compliance with the post-construction ordinance. A concrete flume was installed at the FedEx facility which was permitted on 3/20/12. Additional information was provided following the inspection, documenting storm water must be detained onsite for the 100-year flood event, released at a rate no greater than the predevelopment 5-year run-off rate, and topsoil at the site must be not less than 6 inches. A pond, located below the flume, was required to be enlarged. Infiltrative structures, such as pervious pavement, bioswales or other mechanisms to slow/infiltrate storm water need to be evaluated with every project	X	
Inspection of run-off control devices - Municipally owned storm water control devices and structures must be inspected for proper maintenance and educational materials shall be developed and made available to landowners which outline proper maintenance procedures. City staff report structures such as beehives and intakes are regularly observed but no municipally-owned structural controls were yet in place. The regional basin, located at Lower Beaver and HWY 44, is owned and maintained by the Homeowners Association. Maintenance agreements are utilized as a mechanism for specifying who is responsible for the long-term maintenance of run-off control devices (post-construction BMPs). One example was Autumn Park plat II which had a notarized agreement which specifies each parties obligations. An outline of maintenance requirements is provided and inspections must be documented no less than annually. The city will eventually take over the inspections; however, the developer is initially responsible for these documented inspections. Such agreements are reportedly filed with the County Recorder so the agreement will remain attached to the property. The agreement requires any amendments to be signed by both parties and filed with the County Recorder.	X	
Watershed assessment program – The permit requires a watershed assessment program and comprehensive land use plan to be implemented which outlines measures that will be used to reduce flooding, reduce erosion in streams and ditches, reduce degradation of habitat for fish and wildlife and improve water quality. Although a city-wide watershed assessment has not been completed, a copy of the comprehensive development plan (w/ storm water components) was adopted 9/14/2010, included w/ the 2010 annual report and is available on the web site. The flood mitigation study was completed and implemented. Additionally, the city has continued to conduct stream restoration projects, outlined in the annual reports. These combined actions suggest the city is in substantial compliance with this requirement.	X	

Comments:
The city needs to continue to implement the post-construction requirements of the permit, expanding the watershed assessment to cover all portions of the MS4.

The City appears to have a mechanism in place so post-construction BMPs will be inspected and maintained.

Part II F. Pollution Prevention/House Keeping
This section of the NPDES Permit addresses preventing and reducing pollutant runoff from municipal operations.

Permit requirements	C	NC
Pet Waste Ordinance -	X	
Operation and Maintenance of the MS4 – City staff inspect above-ground components of the MS4 every Monday and cleans or addresses identified problems. Streets are swept in the spring and fall with heavier-traffic areas swept more often. Street sweepings are recorded and disposal of sweepings is at the city wastewater treatment plant where they are dried and land applied. No problems were noted at the land application site; however, this Department has historically considered street sweepings solid waste because of the potential for (metals, petroleum or other) pollutants to be in the sweepings. Solid waste must be taken to an approved sanitary landfill with some exceptions. Chapter 567 121(455B) allows exceptions for land application of solid waste without a permit, providing specific site criteria and analytical results are met. The site appeared to have minimal run-off potential, however, there is a potential for future liability should contamination be found at a later date. If the land application is to continue, the city should develop a monitoring plan to ensure the requirements of Chapter 121 are met. Additional information and links to the rule are available at www. iowadnr.gov.	X	
Pesticide and fertilizer management program – The permit requires the city to develop a pesticide and fertilizer management program which shall reduce pollutant discharge associated with the handling, storage and application of these chemicals. The city contracts with local companies with licensed applicators for all pesticide or fertilizer application and report no handling or storage is conducted by city staff. Even if the handling and application is contracted, it does not relieve the City of developing this program, including maintaining documentation of the amounts applied, applicator information (name and license number), and determining whether lower amounts of pesticides may be used. Staff reported that this information could be obtained from the applicators. The data should be summarized and included in the annual report so an evaluation of use over time can be made. Alternatives to application, such as different types of plantings or evaluation of need, should be considered. This program must be fully developed.		X
Training program for municipal employees – City staff and Fox Engineering staff have attended training and records of training are maintained.	X	
City facilities BMPs – The city maintenance shop has spill kits and silt socks. Written BMPs were included in the annual report.	X	

C = compliant, NC = Not compliant

Comments:
If the land application is to continue, the city is should develop a written monitoring plan to ensure the requirements of Chapter 121 are met.

The City must develop and implement a pesticide and fertilizer management program to reduce pollutant discharge associated with the application of pesticides and fertilizers. Data regarding the application rates must be gathered and evaluated to determine if lower rates would be equally effective. A summary (and evaluation) of the data needs to be included in the annual report.

Part III. Reporting Requirements
Annual reports were received in 2012 and 2013 shortly after the required submittal date of January 31. The reports appear to include required information, with the exception of the fertilizer/pesticide data. Measurable goals and public education efforts were summarized in the annual report. The report suggests staff use measurable goals to evaluate the MS4 program components.

A summary of monitoring data, if it exists, must be included along with a narrative description of storm water improvements or degradation. Data can then be analyzed over time for trends. There are some reported lowater sampling points. The City is encouraged to promote the use of this volunteer water monitoring program as a mechanism for evaluating the water quality/quantity and involving the public in the water quality improvements.

The City has developed and adopted a storm water utility and is commended for taking this important step to ensure this program is adequately funded.

REQUIREMENTS:

Part II.B. The Storm Water Advisory Committee must be expanded to include the public and must meet at least annually.

The Adopt-a-Stream program must be implemented, as required by the NPDES MS4 permit.

Part II.F. Develop and implement a pesticide/ fertilizer management program to reduce pollutant discharge associated with the application of pesticides and fertilizers. Data regarding the application rates must be gathered and evaluated to determine if lower rates would be equally effective. A summary (and evaluation) of the data needs to be included in the annual report.

REMINDER:

Part III.
A summary of monitoring data, if it exists, must be included along with a narrative description of storm water improvements or degradation. Data can then be analyzed over time for trends. There are some reported lowater sampling points. The City is encouraged to promote the use of this volunteer water monitoring program as a mechanism for evaluating the water quality/quantity and involving the public in the water quality improvements.

RECOMMENDATIONS:

Part II.A. The number of articles published should be quantified in annual report.

Part II.E. The city needs to continue to implement the post-construction requirements of the permit, expanding the watershed assessment to cover all portions of the MS4.

Part II.F. If the land application is to continue, the city is should develop a written monitoring plan to ensure the requirements of Chapter 121 are met.

AUTHENTICATION	
INSPECTOR: Kate Bason, Environmental Specialist	**DATE:** 7/29/13
REVIEWER: Dave Perry, Environmental Specialist Senior	**DATE:** 7-29-13

Zimbra sbw@foxeng.com

City of Grimes MS4 response letter

From : Brandt Williamson <sbw@foxeng.com> Fri, Sep 20, 2013 02:18 PM
Subject : City of Grimes M54 response letter 1 attachment
To : Kate Bason [DNR] <kate.bason@dnr.iowa.gov>
Cc : Kelley Brown <kelbrown@ci.grimes.ia.us>, Joe McAreavy <jmcareavy@ci.grimes.ia.us>, John Gade (E-mail) <jgade@foxeng.com>

Kate,
Here is the requested City of Grimes response letter to the audit comments of the MS4 permit.
I do apologize for taking so long in replying and thank you for your patience about the matter.

As stated in the letter, the City is pursuing public involvement in stormwater activities and will have more information to present in several weeks.
A local Girl Scouts troop is interested in volunteer opportunities.

The looks forward to working with you on improving the program.

Brandt Williamson
FOX Engineering Associates, Inc.
414 South 17th Street | Suite 107 | Ames, IA 50010
Office | 515.233.0000 | Fax | 515.233.0103
www.foxeng.com

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201 KB

CITY OF GRIMES

101 North East Harvey Street, Grimes, Iowa 50111-2051 515.986.3036 Fax 515.986.3846

September 20, 2013

State of Iowa
Department of Natural Resources
Field Office #5
Attn: Ted Petersen, Supervisor
401 SW 7th Street, Suite 1
Des Moines, IA 50309-4611

RE: Municipal Separate Storm Sewer System (MS4) Inspection
Notice of Noncompliance
NPDES Permit # 77-36-0-02

Mr. Petersen,

The City is in receipt of your letter dated July 30, 2013 regarding noncompliance items with their MS4 permit and offers the following information in reply.

Thank you for your patience in waiting for the reply. Due to timing constraints of contacting people about participating in the programs that need public involvement, the City requests sending a progress update in early October which will provide more details about bringing programs into compliance.

Storm Water Advisory Committee -- The City will post requests for people interested in serving on the committee at the Grimes Community Center, Library and on the website. Results of the posting will be presented to you in an up-date letter in late September. The expectation will be that an advisory group will be fully constituted by late October so a meeting can be conducted.

Adopt-A-Stream Program -- The City will post requests for people or groups interested in participating in this program at the Grimes Community Center, Library and on the website. The Dallas Center – Grimes Community School District will also be contacted to find out if they have groups that would have an interest in participating. The City is in contact with a local Girl Scouts troop about volunteering opportunities. Results of the posting will be presented to you in an up-date letter in late September. The expectation will be that one or more groups will have committed to participating in the program so that a clean-up event can be hosted in 2014.

Pesticide and Fertilizer Management Program -- Below is the program the City has in-place. The information after the heading "**2013 Additional Information**" shows the information provided by the contracted provider "TruGreen Lawncare" showing what products they utilize for lawn care and the application rates. Because not all of the fall applications have been completed, the information is incomplete. The City will have complete information at the time of the annual report.

The inserted letter from Roger May, PhD (TruGreen) states the typical N application rates. The last line of the table for each treated area sums the N applied to each area. It appears each area will fall in the middle to low range of the suggested application rate.

The City will follow thru with the proposed study outlined below in 2014 in one of the park areas.

Purpose

The purpose of this program is to develop, implement and enforce methods to reduce pollutant discharge associated with storage, application and disposal of pesticides and fertilizers for municipal operations.

Implementation

An integral part of this program is determining the minimum effective application rate of pesticides and fertilizer. In determining the effective application rate it is also important to consider the chemical composition of the products being applied.

The City is promoting the use of "Phosphorous-free" fertilizer on established lawns.

Currently, the City does not store, apply or dispose of pesticides or fertilizer. This does not relieve the City from requiring that those who perform lawn care service will do so in a manner that is consistent with City standards. The City contracts, on an annual basis, for lawn care service. The lawn care service provider for 2013 is:
TruGreen LawnCare
301 SW Oralabor Road
Ankeny, Iowa 50023
515.289.0002 (Phone)
515.289.0075 (fax)
Matt Hibbert, Commercial Account Manager, Des Moines #5755/West Central Region
matthibbert@trugreenmail.com, www.trugreen-survey.com

Materials Management

The following is a list of possible materials to be onsite and is not meant to be comprehensive. Hazardous materials shall be stored in areas where the contamination of storm water is minimized in the event of a spill. The contractor will be responsible for using, storing, and disposing of these materials in accordance with state and local law.

- Soil stabilization additives
- Fertilizers
- Pesticides

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

- An effort will be made to store only enough products required to do the job.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturers' label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials onsite.
- Products will be kept in original containers unless they are not re-sealable.
- Original labels and materials safety data will be retained; they contain important product information.

- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

Application

Pesticides and fertilizers will be applied at the most minimal rate, as determined by a study utilizing varying application rates, that will provide acceptable results. Until such time as the study is completed, product will be applied only in the minimum amount recommended by the manufacturer. Product shall only be applied during weather conditions that limit exposure to storm water.

Spill Response

- Manufacturers' recommended methods for spill cleanup will be clearly posted and personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept readily available. Equipment and materials will include but no be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery. Contaminated soil may require remediation.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spill of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

Reporting of Hazardous Condition

Because activities may include handling of certain hazardous substances during the course of performing lawn care, spills of these substances may create a hazardous condition and are required to be reported. Iowa law requires that as soon as possible but not more than six hours after the onset of a hazardous condition the IDNR and local sheriff's office or the office of the sheriff of the affected county be notified. The Owner and engineer should also be informed of the hazardous condition in a timely manner.

The contractor shall submit a report to the engineer within 14 calendar days of a hazardous condition. The report shall describe the release and the circumstances leading to the release. Steps to prevent the reoccurrence of such releases are to be identified in the plan and implemented.

Training

All personnel who handle and/or apply pesticides and fertilizer shall be trained and certified in the proper handling and use of those products. Training shall include, but not be limited to, storage, handling, mixing, disposal, application rates, personal protective equipment and spill response.

Personal Protective Equipment

All personnel who handle and/or apply pesticides and fertilizer shall be provided personal protective equipment appropriate for the hazard(s) and shall be required to use said personal protective equipment.

Application Rate Study

Two test areas, 1,000 s.f./area, will be set aside for testing of each product utilized by the lawn care service provider for general lawn care. Excludes product(s) used for "spot" control (i.e. crack and crevice, bed weed control). General area shall receive product at the manufacturer minimum recommended rate. One test bed shall receive product at a application rate 10% below the minimum and the other test bed shall receive product at a application rate 25% below the minimum.

The test plots shall be labeled for identification (use and product) and photographed a minimum of six times during the test duration. Test duration shall be one growing season.

2013 Additional Information

The information presented below is intended to demonstrate the City is taking steps to minimize the use of chemicals to control weed growth while promoting the establishment of turf grass.

It is recognized a healthy stand of grass promotes storm water infiltration and diminishes soil loss.

It should be noted that TruGreen does NOT provide "a one-size fits all" approach to turf maintenance. Their standard commercial service agreement suggests seven (7) treatments or applications per year make for the healthiest vegetation. The table below shows the areas/sites and the number of treatments/applications each site is to receive in 2013. The number of treatments/applications varies from three (3) to six (6) depending on location and use. Sports Parks have the heaviest foot traffic and need more attention than traffic islands and trails. The City does not have the seventh (7^{th}) treatment applied because it is scheduled for late fall/early winter and is susceptible to excessive run-off if weather isn't timed correctly.

	Round 1	*Round 2*	*Round 3*	*Round 4*	*Round 5*	*Round 6*	*Round 7*
2755020300 – FIRE STATION		17-May	12-Jun		13-Aug		
2755052062 – SPORTS PARK	9-Apr	29-May	5-Jul	1-Aug	5-Sep	10-Oct	
2755052084 – LIONS PARK		30-Apr	20-Jun		27-Aug		
2755052088 – MEADOWLARK POINT		22-Apr	20-Jun		19-Aug		
2755052140- SUNNY HILL CEMETERY	17-Apr	22-May	19-Jul	20-Aug	15-Sep		
2755052702 – BEAVERBROOKE PARK		30-Apr	20-Jun		19-Aug		
2755085868 – GLENSTONE PARK		20-Apr	15-Jul		15-Sep		
2755085869 – BEAVERBROOKE BLVD	Apr-13	30-May	11-Jul		15-Sep		
2755094744 – WEST CEMETERY	16-Apr	25-May	19-Jul	20-Aug	15-Sep		
7001143877 – NEW SPORTS PARK		26-Apr	1-Jun	3-Jul	31-Jul	9-Sep	
2755055248 – S 11^{TH} R.O.W	8-Apr	30-May	12-Jul	19-Aug	15-Sep		
2755067572 – HWY 44 R.O.W	8-Apr	30-May	15-Jul	19-Aug	15-Sep		
2755067971 – SHAWVER PARK		30-Apr	20-Jun		27-Aug		
2755074136 – WATER WORKS PARK	8-Apr	30-May	11-Jul		18-Sep		
2755075242 – OLD MIDDLE SCHOOL		22-Apr	20-Jun		29-Aug		
2755085867 – NORTH POINT PARK		22-Apr	15-Jul		15-Sep		
7001143915- ISLANDS		25-Apr	20-Jun		21-Aug		
7001143935 – BIKE PATH		22-Apr	20-Jun		21-Aug		
2755085683 – CITY HALL	29-Apr	4-Jun	28-Jun	24-Jul	20-Aug	2-Oct	

Mission Due Date
No scheduled service for this round
Date Completed

General Comments:

1) It is common for newly established areas to require a greater number of treatments until weeds are minimized and grass density maximized
2) Fertilizer containing Phosphorous is utilized only for establishing newly seeded areas.

3) TruGreen makes site visits during the year and confers with their Regional Technical Manager Roger May to propose to the City the chemical treatments for each area. The appropriate chemical is applied to treat the weed(s) that is present at that time of year.
4) The strength/composition of the fertilizer is varied to meet the nourishment need.
5) Some weeds are "spot treated" instead of applying chemical over the whole area.

Please see the attached letter, dated August 22, 2013, from Roger May, PhD, Regional Technical Manager, regarding application rates for Nitrogen (N).

TRUGREEN
Go greener.℠

August 22, 2013

Dear Brandt,

TruGreen fertilizers and rates are customized for each region of the country to deliver superior results to our customers. The fertilizer rates have been established from university research, regional requirements, and TruGreen research programs. Our Iowa programs use fertilizers that are 100% phosphorus free. We only use phosphorus containing fertilizers to establish seed or sod, and to correct phosphorus deficiencies identified from soil tests.

The following are the nitrogen rates per 1000 sq ft that we use for cool season turf in Iowa:

April	0.9lb N
May – June	0.75lb N
July – August	0.5lb N
Sept – November	0.75lb N

The typical commercial property will receive 2.5 – 4 lbs of N/1000 sq ft per year. The N rates per 1000 sq ft and the annual rates N are well established for cool season turf. The N rates that we use build density in spring and fall, maintain color in the summer on irrigated lawns, and create healthy lawns that provide numerous benefits to the environment.

Sincerely,

Roger May, PhD
TruGreen Region Technical Manager

North Sports Park, 900 NW 27th St. **911,600 s.f. (20.93 acres)**

4.26.2013 -- slow release granular fertilizer 25-0-5 – 50% XRT,
actual N / 1,000 s.f. is **0.75 lbs** vs suggested rate (SR) – 0.90 lbs
3.00 lbs/1,000 s.f.
6.01.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
7.03.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
7.31.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.19.2013 -- service only, no fill applied
9.09.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.75+0.75+0.50+0.50+0.xx = **2.50 lbs** vs SR 2.50–4.00 lbs

South Sports Park, 404 S. James St. **985,000 s.f. (22.61 acres)**

4.09.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
5.29.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
-- grub preventative, Merit2F (Imidacloprid), EPA #432-1312,
0.4410 fl oz/1,000 s.f.
7.05.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
8.01.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
9.05.2013 -- scheduled service
10.10.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.75+0.75+0.50+0.50+0.xx = **2.50 lbs** vs SR 2.50–4.00 lbs

City Hall, 101 N. Harvey St. **10,000 s.f. (0.23 acres)**

4.29.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.90 lbs** vs SR – 0.90 lbs
0.550 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
-- weed control Escalade 2 (2,4-D, Fluroxypyr, Dicambia), EPA #228-442,
0.00770 gal/1,000 s.f.
6.04.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0100 gal/1,000 s.f.

-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.

6.28.2013 -- slow release granular fertilizer 25-0-5 – 50% XRT,
actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
3.0 lbs/1,000 s.f.

-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.

7.24.2013 -- slow release granular fertilizer 25-0-5 – 50% XRT,
actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.50 lbs
3.00 lbs/1,000 s.f.

-- spot weed treatment Dismiss (Sulfentrazone), EPA #279-3295,
0.0900 fl oz/1,000 s.f.

-- spot weed treatment Quincept (2,4-D, Quinclorac, Dicambia), EPA #228-531,
1.000 gal/1,000 s.f.

8.20.2013 -- scheduled service, need report

10.02.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.90+0.75+0.75+0.75+0.xx = **3.15 lbs** vs SR 2.50–4.00 lbs

West Cemetery, 1250 Hwy 44 **91,800 s.f. (2.11 acres)**

4.16.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
1.630 lbs/1,000 s.f.

5.25.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
1.630 lbs/1,000 s.f.

-- perennial weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.

-- Turflon Ester/ultra (Triclopyr), EPA #62719-566,
0.130 fl oz/1,000 s.f.

7.19.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.50 lbs
1.630 lbs/1,000 s.f.

-- weed control Escalade 2 (2,4D, Fluroxypyr, Dicambia), EPA #228-442,
0.0077 gal/1,000 s.f.

8.20.2013 -- scheduled service, need report

9.15.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.75+0.75+0.75+0.xx+0.xx = **2.25 lbs** vs SR 2.50–4.00 lbs

Sunny Hill Cemetery, 410 S. James St. **252,492 s.f. (5.80 acres)**

4.16.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
1.630 lbs/1,000 s.f.

5.22.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
1.630 lbs/1,000 s.f.

-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.

7.19.2013 -- liquid fertilizer 46-0-0, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.50 lbs
1.630 lbs/1,000 s.f.

-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.

8.20.2013 -- scheduled service, need report

9.15.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.75+0.75+0.75+0.xx+0.xx = **2.25 lbs** vs SR 2.50–4.00 lbs

South 11th Street R.O.W. **60,576 s.f. (1.39 acres)**

4.08.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.90 lbs** vs SR – 0.90 lbs
0.550 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
5.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
7.12.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.19.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
9.15.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.90+0.75+0.50+0.50+0.xx = **2.65 lbs** vs SR 2.50–4.00 lbs

Hwy 44 R.O.W. **94,000 s.f. (2.16 acres)**

4.08.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.90 lbs** vs SR – 0.90 lbs
0.550 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
5.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
7.15.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.19.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
9.15.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.90+0.75+0.50+0.50+0.xx = **2.65 lbs** vs SR 2.50–4.00 lbs

Islands and Medians (7 each) **31,528 s.f. (0.72 acres)**

4.25.2013 -- slow release granular fertilizer 25-0-5
actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
-- mixed with pre-emergent weed control Barricade (Prodiamine), EPA #9198-163,
3.0 lbs/1,000 s.f.
-- weed control Escalade 2 (2,4D, Fluroxypyr, Dicambia), EPA #228-442,
0.0077 gal/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.21.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.75+0.xx = **1.50 lbs** vs SR 2.50–4.00 lbs

Water Works Park, Hyw 44 & N. James St. **362,509 s.f. (8.32 acres)**

4.08.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.90 lbs** vs SR – 0.90 lbs
0.550 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
5.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
7.11.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
9.18.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.90+0.75+0.50+0.xx = **2.15 lbs** vs SR 2.50–4.00 lbs

Beaverbrooke Boulevards, west of N. James St. **45,727 s.f. (1.05 acres)**

4.08.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.90 lbs** vs SR – 0.90 lbs
0.550 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
5.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.010 gal/1,000 s.f.
-- pre-emergent weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
7.11.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
9.15.2013 -- scheduled service

actual N/1,000 s.f. for year is 0.90+0.75+0.50+0.xx = **2.15 lbs** vs SR 2.50–4.00 lbs

Beaverbrooke Park, 700 N. James St. **82,554 s.f. (1.90 acres)**

4.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.19.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- perennial weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
-- Turflon Ester/ultra (Triclopyr), EPA #62719-566,
0.130 fl oz/1,000 s.f.

actual N/1,000 s.f. for year is 0.75+0.75+0.50 = **2.00 lbs** vs SR 2.50–4.00 lbs

Fire Station Basin, 200 S. James St. **4,200 s.f. (0.10 acres)**

5.17.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.360 fl oz/1,000 s.f.
6.12.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.13.2013 -- slow release 25-0-5(50% XRT), actual N/1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
2.40 lbs/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0086 gal/1,000 s.f.
-- spot weed treatment Dismiss (Sulfentrazone), EPA #279-3295,
0.0900 fl oz/1,000 s.f.

actual N/1,000 s.f. for year is 0.75+0.75+0.75 = **2.25 lbs** vs SR 2.50–4.00 lbs

Lions Park, 214 N. 8th St & N. Park Road **88,000 s.f. (2.02 acres)**

4.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.27.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.75+0.xx = **1.50 lbs** vs SR 2.50–4.00 lbs

Meadowlark Point Trail, 2170 SE Dolan St. **77,247 s.f. (1.77 acres)**

4.22.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.370 fl oz/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.19.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.

actual N/1,000 s.f. for year is 0.75+0.75+0.50 = **2.00 lbs** vs SR 2.50–4.00 lbs

Shawver Park, Shawver Drive **108,000 s.f. (2.48 acres)**

4.30.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.27.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.75+0.xx = **1.50 lbs** vs SR 2.50–4.00 lbs

Old Middle School (Grimes Comm. Center), SE 6th & S. Main St. **104,312 s.f. (2.39 acres)**

4.22.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.29.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.75+0.xx = **1.50 lbs** vs SR 2.50–4.00 lbs

North Point Park, NW 78th Ave. & NW 107th St. **145,926 s.f. (3.35 acres)**

4.22.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- weed control Dimension 2EW (Dithiopyr), EPA #62719-542,
0.370 fl oz/1,000 s.f.
7.15.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
-- spot weed treatment Dismiss (Sulfentrazone), EPA #279-3295,
0.090 fl oz/1,000 s.f.
9.15.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.50+0.xx = **1.25 lbs** vs SR 2.50–4.00 lbs

Glenstone Park, SE 33rd St & SE Glenstone Dr. **179,467 s.f. (4.12 acres)**

4.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
7.15.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.50 lbs** vs SR – 0.50 lbs
0.310 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.

9.15.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.50+0.xx = **1.25 lbs** vs SR 2.50–4.00 lbs

Bike Path, S. James Street-Sports complex to SE 37th St. **39,072 s.f. (0.90 acres)**

4.22.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.90 lbs
0.460 gal/1,000 s.f.
-- perennial weed control TruPower 3 (2, 4-D, MECOPROP-P, Dicambia), EPA #228-551,
0.0090 gal/1,000 s.f.
-- pre-emergent weed control Barricade 4FL (Prodiamine), EPA #100-1139,
0.370 fl oz/1,000 s.f.
6.20.2013 -- liquid fertilizer 17-0-5, actual N / 1,000 s.f. is **0.75 lbs** vs SR – 0.75 lbs
0.460 gal/1,000 s.f.
-- weed control TriPower (MCPA, MECOPROP-P, Dicambia), EPA #228-262,
0.0090 gal/1,000 s.f.
8.21.2013 -- scheduled service, need report

actual N/1,000 s.f. for year is 0.75+0.75+0.xx = **1.50 lbs** vs SR 2.50–4.00 lbs

A copy of the work order showing what was applied at each site at each application is available upon request.